Colour Television **Chassis**

LC4.31E
AA

Service
Service
Service

G_16210_000.eps
200106

Service Manual

Contents **Page**

1. Technical Specifications, Connections, and Chassis Overview 2
2. Safety Instructions, Warnings, and Notes 5
3. Directions for Use 6
4. Mechanical Instructions 7
5. Service Modes, Error Codes, and Fault Finding 12
6. *Block Diagrams, Test Point Overviews, and Waveforms*
   Wiring Diagram 26” & 32” 21
   Wiring Diagram 37” 22
   Block Diagram Supply 37” 23
   Block Diagram Video 24
   Block Diagram Audio 25
   Test Point Overview Small Signal Board 26
   I2C Overview 27
   Supply Voltage Overview 28
7. *Circuit Diagrams and PWB Layouts* *Diagram* *PWB*
   PSU (37”): Mains Filter & Standby (A1) 29 31-36
   PSU (37”): Supply (A2) 30 31-36
   SSB: Tuner and VIF(B1) 37 60-69
   SSB: Hercules (B2) 38 60-69
   SSB: Sync Interface (B3) 39 60-69
   SSB: Audio Delay Line (PDP Only) (B4) 40 60-69
   SSB: Audio Processing (B5) 41 60-69
   SSB: DC-DC Converter (B6) 42 60-69
   SSB: Diversity Tables B1-B6 43
   SSB: Scaler (B7) 44 60-69
   SSB: Scaler (B8) 45 60-69
   SSB: Scaler Interface (B9) 46 60-69
   SSB: SDRAM (B10) 47 60-69
   SSB: Flash / Control (B11) 48 60-69
   SSB: HDMI (B12) 49 60-69
   SSB: MUX-Sync Interface (B13) 50 60-69
   SSB: Digital I/O (B14) 51 60-69

Contents **Page**

   SSB: SCART Analog I/O (B15A) 52 60-69
   SSB: DMMI (B15B) 53 60-69
   SSB: Top Connectors (B16) 54 60-69
   SSB: Side Connectors (B17) 55 60-69
   SSB: ADC (B18) 56 60-69
   SSB: Columbus (B19) 57 60-69
   SSB: Pacific 3 (B20) 58 60-69
   SSB: Diversity Tables B9-B20 59
   Class D Audio Amplifier (26” & 32”) (C) 70 71
   Side I/O Panel (26” & 32”) (D) 72 73
   Side I/O Panel (37”) (D) 74 75
   Keyboard Control Board (26” & 32”) (E) 76 76
   Keyboard Control Board (37”) (E) 77 77
   Front IR / LED Panel (26” & 32”) (ME5P) (J) 78 78
   IR-LED and Light Sensor Panel (ME5FL) (J) 79 79
   Front IR / LED Panel (37”)(J) 80 81
   Standby & Audio Panel (37”) : Connections(SA1)79 85-87
   Standby & Audio Panel (37”): Standby (SA2) 83 85-87
   Standby & Audio Panel (37”) : Audio (SA3) 84 85-87
   OTC Flash (For 1000pg TXT) (37”) (T) 88 89
8. Alignments 91
9. Circuit Descriptions, Abbreviation List, and IC Data Sheets 96
   Abbreviation List 97
   IC Data Sheets 100
10. Spare Parts List (Only for: 26PF5321/10 - /12, 32PF5321/10 - /12) 104
11. Revision List 110

©Copyright 2006 Philips Consumer Electronics B.V. Eindhoven, The Netherlands. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Philips.

Published by WS 0661 TV Service Printed in the Netherlands Subject to modification EN 3122 785 16210

PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

1.1 Technical Specifications
1.2 Connection Overview
1.3 Chassis Overview

Notes:
- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	LCD, IPS
Screen size	
- 26PF5321/10/12	26” (66 cm), 16:9
- 32PF5321/10/12	32” (82 cm), 16:9
- 37PF5321/10/12	37” (94 cm), 16:9
- 26PF7321/12	26” (66 cm), 16:9
- 32PF7321/12	32” (82 cm), 16:9
- 37PF7321/10/12	37” (94 cm), 16:9
Resolution (HxV pixels)	1366 x 768
Contrast ratio	
- 26PF5321/10/12	1200:1
- 32PF5321/10/12	1200:1
- 37PF5321/10/12	1200:1
- 26PF7321/12	2400:1
- 32PF7321/12	2400:1
- 37PF7321/10/12	2400:1
Light output (cd/m^2)	500
Response time (ms)	8
Viewing angle (HxV degrees)	
- 26PF5321/10/12	178x178
- 32PF5321/10/12	178x178
- 37PF5321/10/12	176x176
- 26PF7321/12	178x178
- 32PF7321/12	178x178
- 37PF7321/10/12	176x176
Tuning system	PLL
TV Colour systems	PAL B/G, D/K, I SECAM B/G, D/K, L/L’
Video playback	NTSC M/N 3.58, 4.43 PAL B/G SECAM L/L’
Supported computer formats	VGA (640x480) MAC (640x480) SVGA (800x600) XVGA (1024x768) WXGA (1280x768)
Supported video formats	640x480p - 2fH 720x576p - 2fH 1280x720p - 3fH 1920x1080i - 2fH
Presets/channels	100 presets
Tuner bands	VHF UHF S-band Hyper-band

1.1.2 Sound

Sound systems	NICAM B/G, D/K, I, L AV Stereo
Maximum power (W_{RMS})	
- 26PF5321/10/12	2 x 5
- 32PF5321/10/12	2 x 15
- 37PF5321/10/12	2 x 15
- 26PF7321/12	2 x 5
- 32PF7321/12	2 x 15
- 37PF7321/10/12	2 x 15

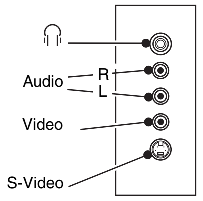
1.1.3 Miscellaneous

Power supply:	
Mains voltage (V_{AC})	
- 26PF5321/10/12	110 - 240
- 32PF5321/10/12	110 - 240
- 37PF5321/10/12	220 - 240
- 26PF7321/12	110 - 240
- 32PF7321/12	110 - 240
- 37PF7321/10/12	220 - 240
Mains frequency (Hz)	50 / 60
Ambient conditions:	
- Temperature range (°C)	+5 to +40
- Maximum humidity	90% R.H.
Power consumption:	
Normal operation (W)	
- 26PF5321/10/12	100
- 32PF5321/10/12	120
- 37PF5321/10/12	180
- 26PF7321/12	100
- 32PF7321/12	120
- 37PF7321/10/12	180
Stand-by (W)	
- 26PF5321/10/12	< 1
- 32PF5321/10/12	< 1
- 37PF5321/10/12	< 2
- 26PF7321/12	< 1
- 32PF7321/12	< 1
- 37PF7321/10/12	< 2
Dimensions (WxHxD cm):	
- 26PF5321/10/12	80.45 x 43.8 x 11.4
- 32PF5321/10/12	92.4 x 50.7 x 11.9
- 37PF5321/10/12	110.0 x 60.9 x 10.25
- 26PF7321/12	69.75 x 49.48 x 9.97
- 32PF7321/12	93.5 x 51.65 x 12.0
- 37PF7321/10/12	111.4 x 61.8 x 10.3
Weight (kg):	
- 26PF5321/10/12	13.3
- 32PF5321/10/12	18.9
- 37PF5321/10/12	25.1
- 26PF7321/12	13.0
- 32PF7321/12	19.2
- 37PF7321/10/12	25.9

1.2 Connection Overview

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side I/O connections



G_16210_070.eps
190106

Figure 1-1 Side I/O connections

S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd	⏚
2	- Ground C	Gnd	⏚
3	- Video Y	1 V_{PP} / 75 ohm	→○
4	- Video C	0.3 V_{PP} / 75 ohm	→○

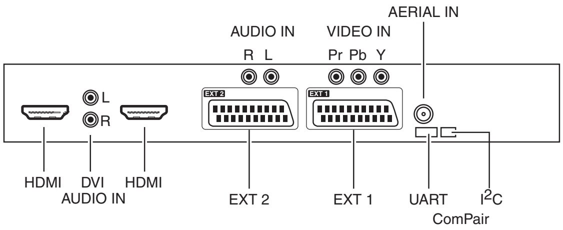
Cinch: Video CVBS - In, Audio - In

Ye	- Video CVBS	1 V_{PP} / 75 ohm	→○◎
Wh	- Audio L	0.5 V_{RMS} / 10 kohm	→○◎
Rd	- Audio R	0.5 V_{RMS} / 10 kohm	→○◎

Mini Jack: Audio Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW	◎ 3.5mm / 🎧

1.2.2 Rear Connections



G_16210_071.eps
190106

Figure 1-2 Rear I/O

Aerial - In

-	- IEC-type (EU)	Coax, 75 ohm	⊤

Cinch: Audio - In

Wh	- Audio L	0.5 V_{RMS} / 10 kohm	→○◎
Rd	- Audio R	0.5 V_{RMS} / 10 kohm	→○◎

Cinch: Video YPbPr - In

Gn	- Video Y	1 V_{PP} / 75 ohm	→○◎
Bu	- Video Pb	0.7 V_{PP} / 75 ohm	→○◎
Rd	- Video Pr	0.7 V_{PP} / 75 ohm	→○◎

Cinch: DVI Audio - In

Rd	- Audio - R	0.5 V_{RMS} / 10 kohm	→○◎
Wh	- Audio - L	0.5 V_{RMS} / 10 kohm	→○◎

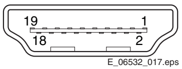
Service connector (ComPair)

1	- SDA-S	I^{2}C Data (0 - 5 V)	→○○→
2	- SCL-S	I^{2}C Clock (0 - 5 V)	→○
3	- Ground	Gnd	⏚

Service connector (UART)

1	- UART_TX	Transmit	○→
2	- Ground	Gnd	⏚
3	- UART_RX	Receive	→○

HDMI: Digital Video/Digital Audio - In

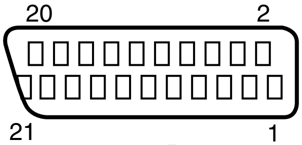


E_06532_017.eps
250505

Figure 1-3 HDMI (type A) connector

1	- D2+	Data channel	→○
2	- Shield	Gnd	⏚
3	- D2-	Data channel	→○
4	- D1+	Data channel	→○
5	- Shield	Gnd	⏚
6	- D1-	Data channel	→○
7	- D0+	Data channel	→○
8	- Shield	Gnd	⏚
9	- D0-	Data channel	→○
10	- CLK+	Data channel	→○
11	- Shield	Gnd	⏚
12	- CLK-	Data channel	→○
13	- n.c.		
14	- n.c.		
15	- DDC_SCL	DDC clock	→○
16	- DDC_SDA	DDC data	→○○→
17	- Ground	Gnd	⏚
18	- +5V		→○
19	- HPD	Hot Plug Detect	→○
20	- Ground	Gnd	⏚

EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out

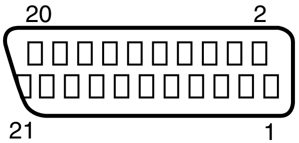


E_06532_001.eps
050404

Figure 1-4 SCART connector

1	- Audio R	0.5 V_{RMS} / 1 kohm	○→
2	- Audio R	0.5 V_{RMS} / 10 kohm	→○
3	- Audio L	0.5 V_{RMS} / 1 kohm	○→
4	- Ground Audio	Gnd	⏚
5	- Ground Blue	Gnd	⏚
6	- Audio L	0.5 V_{RMS} / 10 kohm	→○
7	- Video Blue	0.7 V_{PP} / 75 ohm	→○
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	→○
9	- Ground Green	Gnd	⏚
10	- n.c.		
11	- Video Green	0.7 V_{PP} / 75 ohm	→○
12	- n.c.		
13	- Ground Red	Gnd	⏚
14	- Ground	Gnd	⏚
15	- Video Red	0.7 V_{PP} / 75 ohm	→○
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	→○
17	- Ground Video	Gnd	⏚
18	- Ground FBL	Gnd	⏚
19	- Video Terr. CVBS	1 V_{PP} / 75 ohm	○→
20	- Video CVBS/Y	1 V_{PP} / 75 ohm	→○
21	- Shield	Gnd	⏚

EXT2: Video Y/C - in, CVBS - In/Out, Audio - In/Out



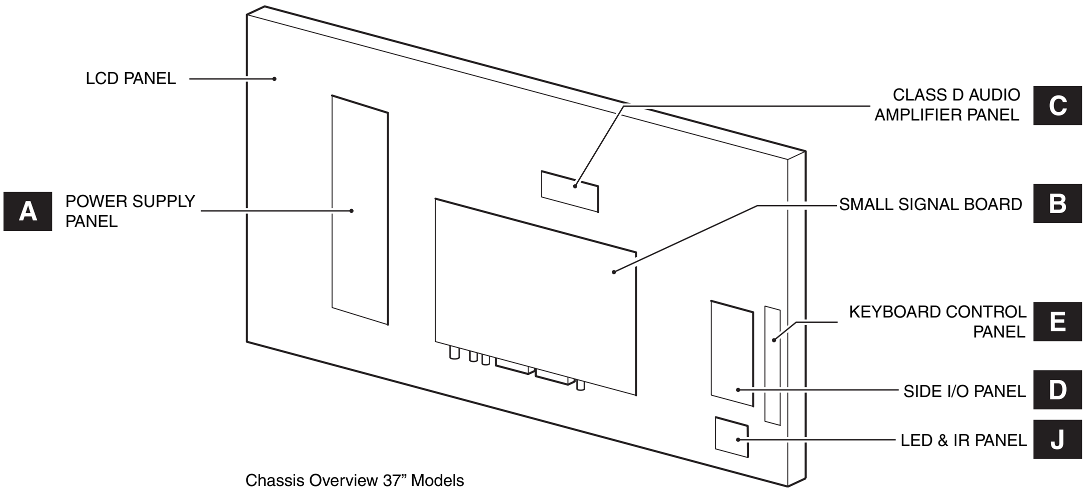
E_06532_001.eps
050404

Figure 1-5 SCART connector

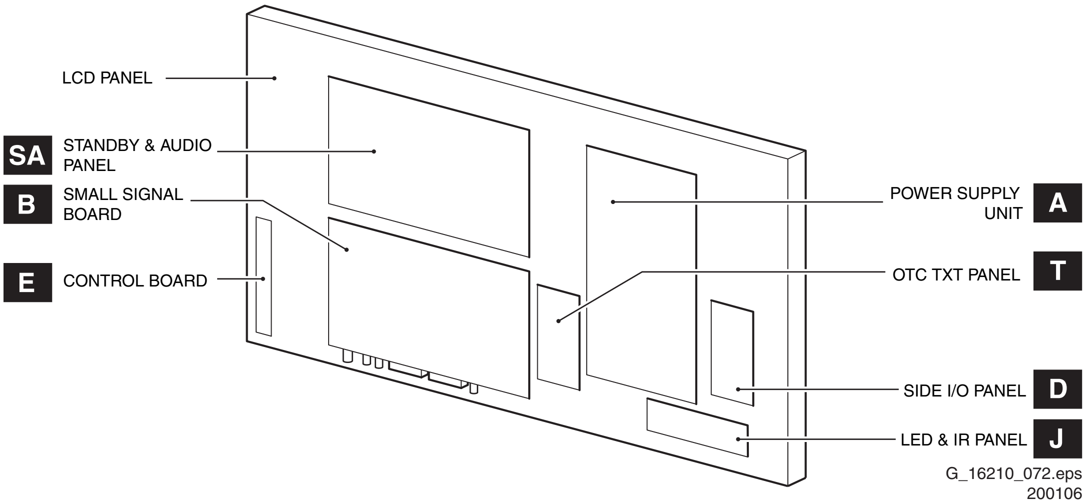
1	- Audio R	0.5 V_{RMS} / 1 kohm	⊖→
2	- Audio R	0.5 V_{RMS} / 10 kohm	→⊖
3	- Audio L	0.5 V_{RMS} / 1 kohm	⊖→
4	- Ground Audio	Gnd	⏚
5	- Ground Blue	Gnd	⏚
6	- Audio L	0.5 V_{RMS} / 10 kohm	→⊖
7	- n.c.		
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	→⊖
9	- Ground Green	Gnd	⏚
10	- n.c.		
11	- n.c.		
12	- n.c.		
13	- Ground Red	Gnd	⏚
14	- Ground	Gnd	⏚
15	- YC/C - in	0.7 V_{PP} / 75 ohm	→⊖
16	- n.c.		
17	- Ground Video	Gnd	⏚
18	- Ground	Gnd	⏚
19	- Video Mon. CVBS	1 V_{PP} / 75 ohm	⊖→
20	- YC/Y - in	0.7 V_{PP} / 75 ohm	→⊖
21	- Shield	Gnd	⏚

1.3 Chassis Overview

Chassis Overview 26” & 32” Models


LCD PANEL
CLASS D AUDIO AMPLIFIER PANEL
C
A
POWER SUPPLY PANEL
SMALL SIGNAL BOARD
B
KEYBOARD CONTROL PANEL
E
SIDE I/O PANEL
D
LED & IR PANEL
J

Chassis Overview 37” Models


LCD PANEL
SA
STANDBY & AUDIO PANEL
B
SMALL SIGNAL BOARD
E
CONTROL BOARD
POWER SUPPLY UNIT
A
OTC TXT PANEL
T
SIDE I/O PANEL
D
LED & IR PANEL
J

G_16210_072.eps
200106

Figure 1-6 Chassis overview

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

2.1 Safety Instructions
2.2 Warnings
2.3 Notes

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains (AC Power) via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains (AC Power) lead for external damage.
- Check the strain relief of the Mains (AC Power) cord for proper function.
- Check the electrical DC resistance between the Mains (AC Power) plug and the secondary side (only for sets that have a Mains (AC Power) isolated power supply):
  1. Unplug the Mains (AC Power) cord and connect a wire between the two pins of the Mains (AC Power) plug.
  2. Set the Mains (AC Power) switch to the “on” position (keep the Mains (AC Power) cord unplugged!).
  3. Measure the resistance value between the pins of the Mains (AC Power) plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  4. Switch “off” the set, and remove the wire between the two pins of the Mains (AC Power) plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
  - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
  - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched “on”.
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (⏚), or hot ground (▽), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with (⫪) and without (⫪̸) aerial signal. Measure the voltages in the power supply section both in normal operation (⏽) and in stand-by (⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads (μ= x10^{-6}), nano-farads (n= x10^{-9}), or pico-farads (p= x10^{-12}).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Rework on BGA (Ball Grid Array) ICs

General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

Device Removal

As is the case with any component that, is being removed, it is essential when removing an (LF)BGA, that the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature.

A uniform temperature reduces the risk of warping the PWB. To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.

Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.

After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.
Note: Do not apply solder paste, as this has been shown to result in problems during re-soldering.

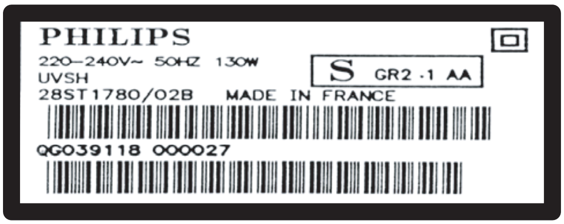
Device Replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers.
So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

More Information
For more information on how to handle BGA devices, visit this URL: *www.atyourservice.ce.philips.com* (needs subscription, not available for all regions). After login, select “Magazine”, then go to “Repair downloads”. Here you will find Information on how to deal with BGA-ICs.

2.3.4 Lead-free Solder

Philips CE is producing lead-free sets (PBF) from 1.1.2005 onwards.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 5 and 6 refer to the production year, digits 7 and 8 refer to production week (in example below it is 1991 week 18).


PHILIPS
220–240V~ 50HZ 130W
UVSH
S GR2 .1 AA
28ST1780/02B MADE IN FRANCE
QG039118 000027

E_06532_024.eps
230205

Figure 2-1 Serial number example

Regardless of the special lead-free logo (which is not always indicated), one must treat all sets from this date onwards according to the rules as described below.

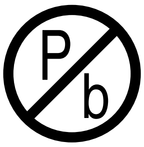


Figure 2-2 Lead-free logo

Due to lead-free technology some rules have to be respected by the workshop during a repair:
- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
  - To reach a solder-tip temperature of at least 400°C.
  - To stabilise the adjusted temperature at the solder-tip.
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilised at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch “off” unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.
- Use only original spare-parts listed in the Service-Manuals. Not listed standard material (commodities) has to be purchased at external companies.
- Special information for lead-free BGA ICs: these ICs will be delivered in so-called "dry-packaging" to protect the IC against moisture. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets "wet" inside and during the heating time the structure of the IC will be destroyed due to high (steam-) pressure inside the body. If the packaging was opened before usage, the IC has to be heated up for some hours (around 90°C) for drying (think of ESD-protection!).
Do not re-use BGAs at all!
- For sets produced before 1.1.2005, containing leaded soldering tin and components, all needed spare parts will be available till the end of the service period. For the repair of such sets nothing changes.

In case of doubt whether the board is lead-free or not (or with mixed technologies), you can use the following method:
- Always use the highest temperature to solder, when using SAC305 (see also instructions below).
- De-solder thoroughly (clean solder joints to avoid the mixing of two alloys).

Caution: For BGA-ICs, you **must** use the correct temperature profile, which is coupled to the 12NC. For an overview of these profiles, visit the website *www.atyourservice.ce.philips.com* (needs subscription, but is not available for all regions).
You will find this and more technical information within the “Magazine”, chapter “Repair downloads”.
For additional questions please contact your local repair help desk.

2.3.5 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:
http://www.philips.com/support
http://www.p4c.philips.com

4. Mechanical Instructions

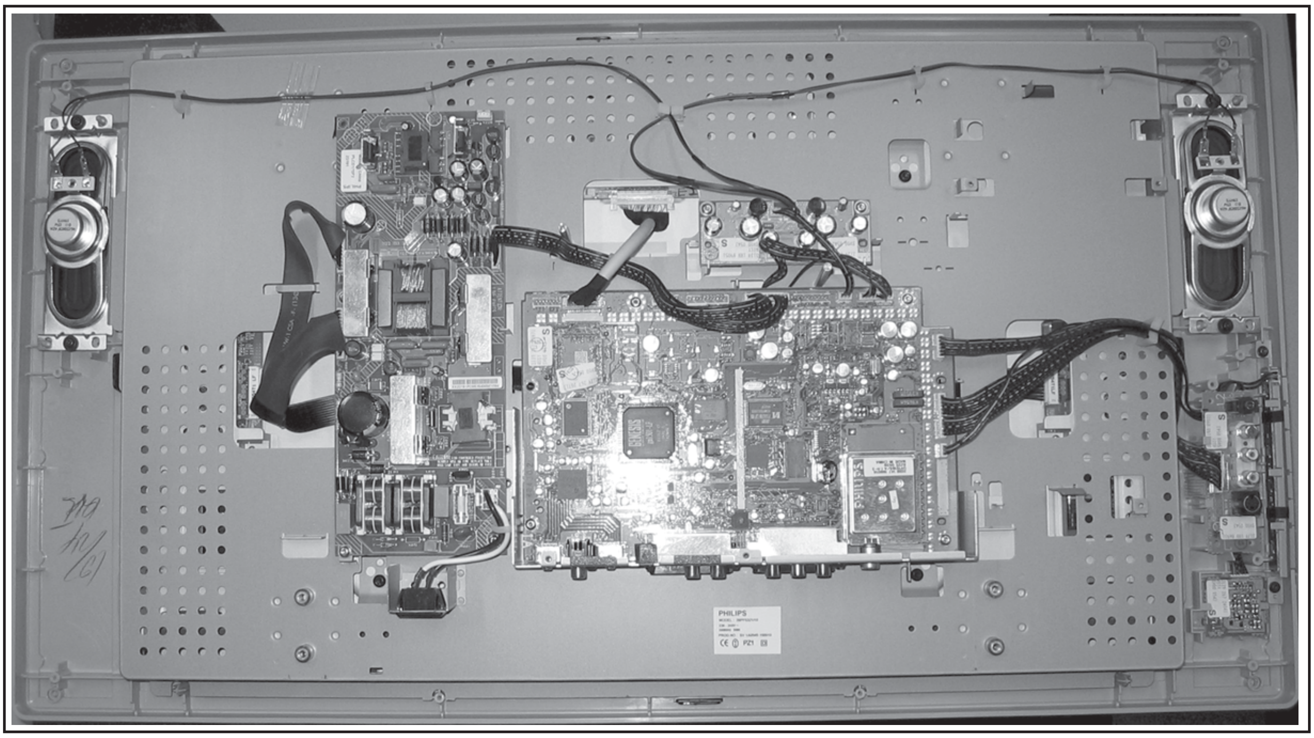
Index of this chapter:

4.1 Cable Dressing
4.2 Service Position
4.3 Assy/Panel Removal
4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

4.1 Cable Dressing



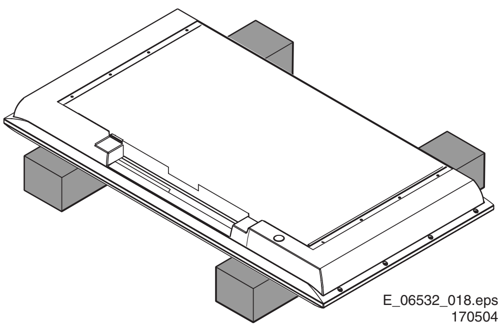
G_16210_073.eps
190106

Figure 4-1 Cable dressing (26PF5321/10)

4.2 Service Position

First, put the TV set in its service position. Therefore, place it upside down on a table top (use a protection sheet or foam bars).

4.2.1 The Foam Bars



E_06532_018.eps
170504

Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580) can be used for all types and sizes of Flat TVs. By laying the plasma or LCD TV flat on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By first placing a mirror flat on the table under the TV you can easily see if something is happening on the screen.

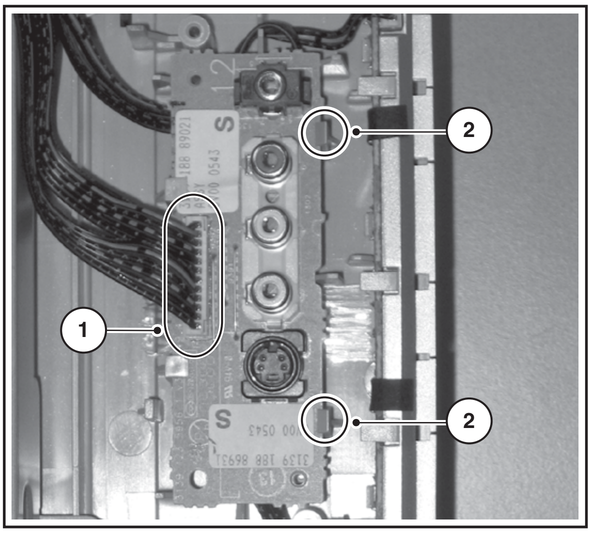
4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Remove the screws that secure the rear cover.
2. Lift the rear cover from the cabinet cautiously. Make sure that wires and other internal components are not damaged during cover removal.

4.3.2 Side I/O Panel

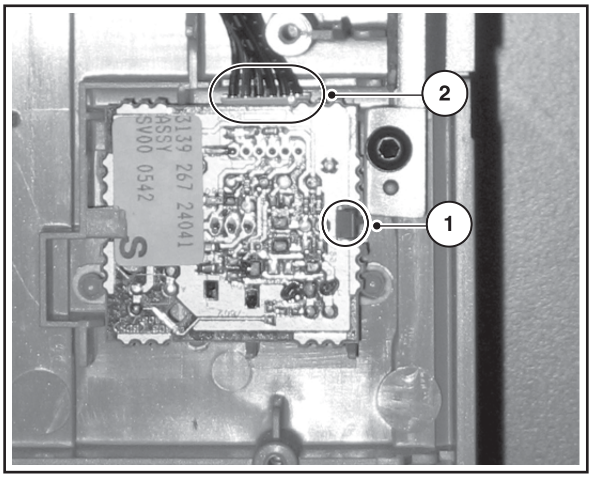


G_16210_074.eps
190106

Figure 4-3 Side I/O panel

1. Disconnect the cable [1] from the panel.
2. Release the two fixation clamps [2] and lift the panel out of the bracket.

4.3.3 LED Panel

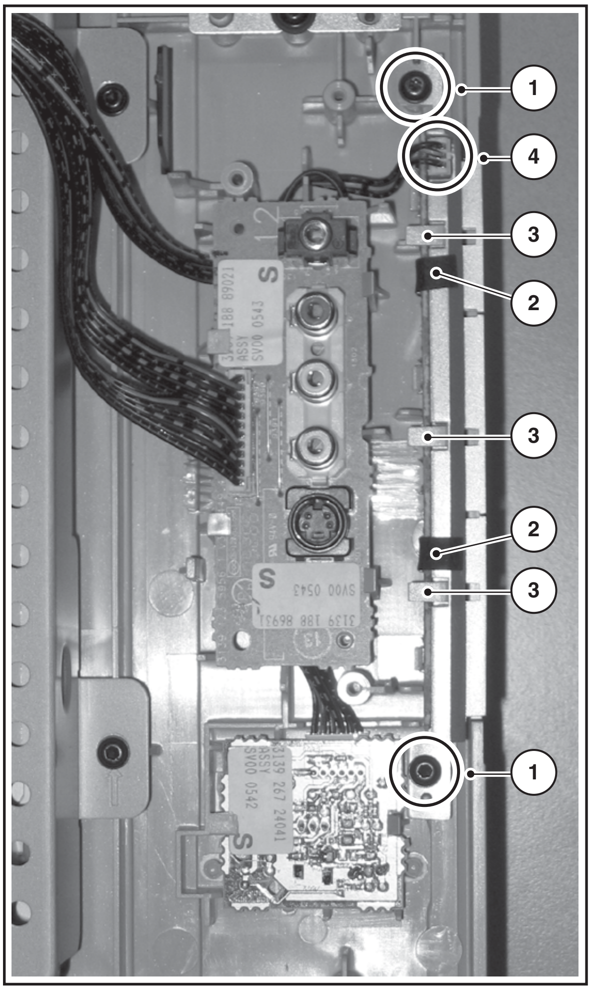


G_16210_075.eps
190106

Figure 4-4 LED panel

1. Release the fixation clamp [1] and take the panel out of the bracket.
2. Disconnect the cable [2] from the panel.

4.3.4 Keyboard Control Panel

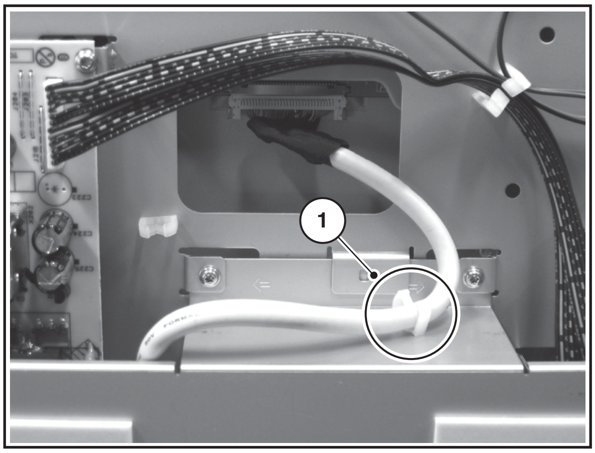


G_16210_076.eps
190106

Figure 4-5 Keyboard control panel

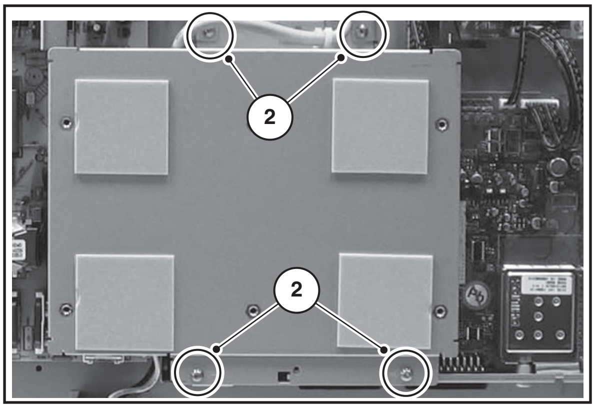
1. Remove the two fixation screws [1] from the bracket and take out the panel/bracket combination.
2. Remove the fixation tape [2] from the panel/bracket combination.
3. Release the three fixation clamps [3] and lift the panel out of the bracket.
4. Disconnect the cable [4] from the panel.

4.3.5 SSB Cover Shield (depending on model)



F_15270_044.eps
180505

Figure 4-6 Cable clip on cover shield

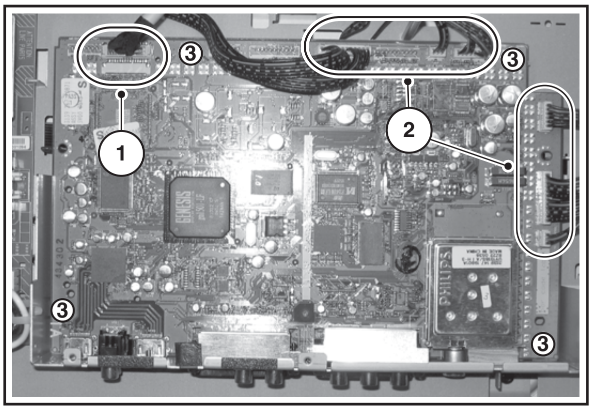


F_15270_045.eps
190505

Figure 4-7 SSB cover shield

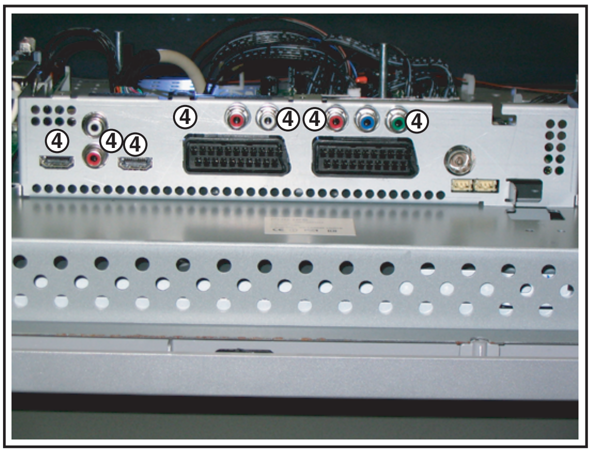
1. Release the cable from the plastic cable clip [1] on the shield (see Figure “Cable clip on cover shield” above).
2. Remove the four fixation screws (2, see Figure “SSB cover shield”; the screws are also indicated by arrows on the shield) and remove the shield.
   Notice that on one side, the shield is not only held by two screws, but also by two brackets (see Figure “Cable clip on cover shield” above).

4.3.6 Small Signal Board



G_16210_077.eps
190106

Figure 4-8 SSB connectors

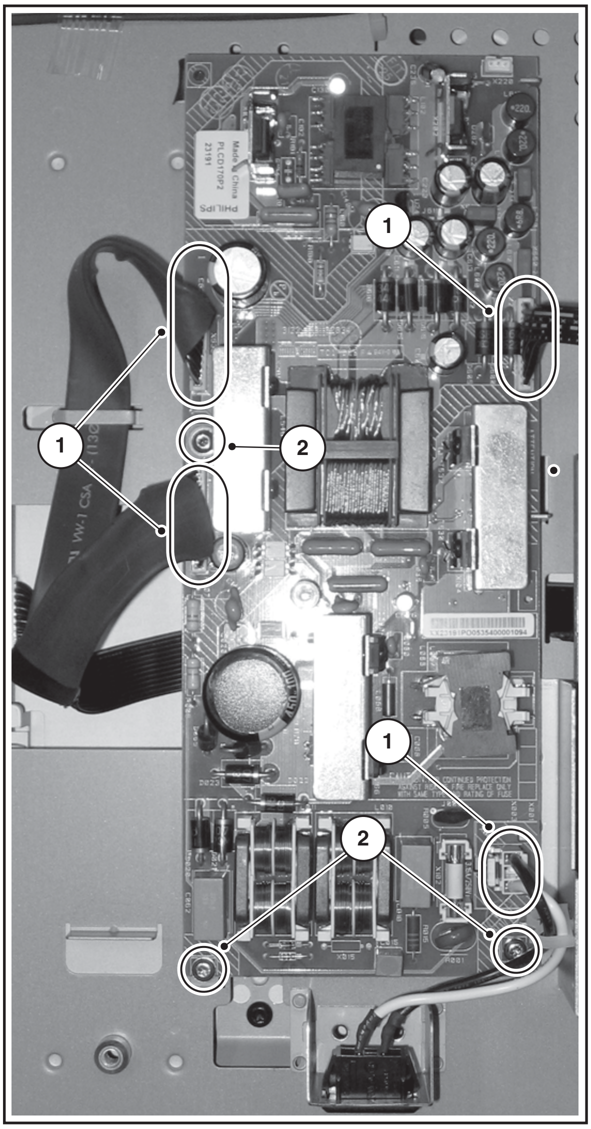


G_16210_078.eps
200106

Figure 4-9 Connector screws

1. Very **cautiously** disconnect the LVDS cable [1] from the panel (see Figure “SSB connectors”). Notice that this cable is very fragile.
2. Disconnect the other cables [2] from the panel.
3. Remove the fixation screws [3] that secure the SSB (depending on model) and also the fixation screws [4] from the connector plate (see Figure “Connector screws”).
4. Take the panel out of its brackets.

4.3.7 Power Supply Panel (various models used)

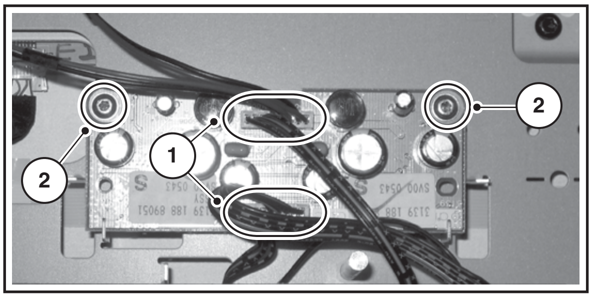


G_16210_079.eps
200106

Figure 4-10 Power supply panel

1. Disconnect all cables [1] from the panel.
   Notice that the two connectors for X520 and X530 on this panel are similar, and should not be mixed up later when they are reconnected (X520 is connected via its flatcable to connector CN01 on the LCD panel, near the R-speaker; X530 is connected via its flatcable to connector CN04 on the LCD panel, near the L-speaker).
2. Remove the fixation screws [2] from the panel.
3. Take the panel out of its brackets.

4.3.8 Audio Amplifier Panel

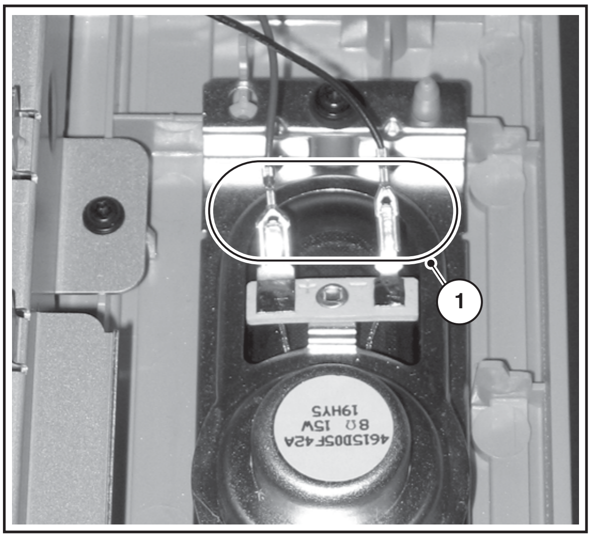


G_16210_080.eps
200106

Figure 4-11 Audio amplifier panel

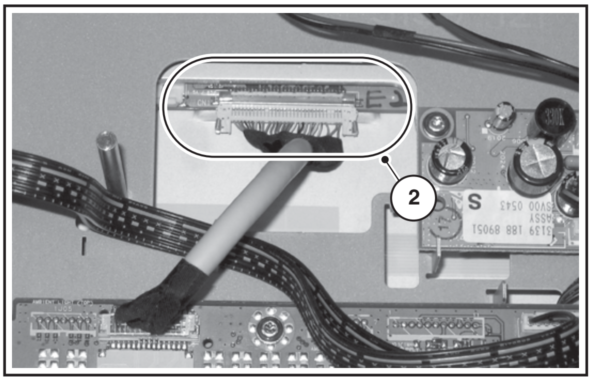
1. Disconnect all cables [1] from the panel.
2. Remove the fixation screws [2] from the panel.
3. Remove the panel.

4.3.9 LCD Panel



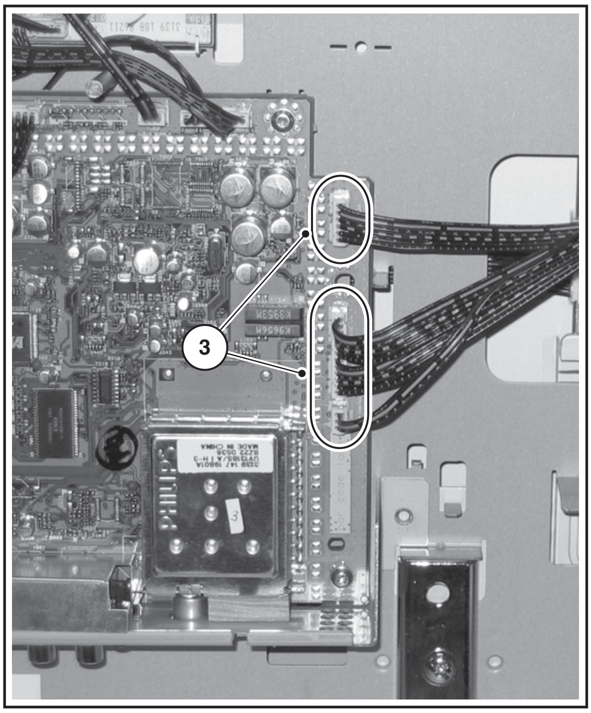
G_16210_081.eps
200106

Figure 4-12 Loudspeaker cables



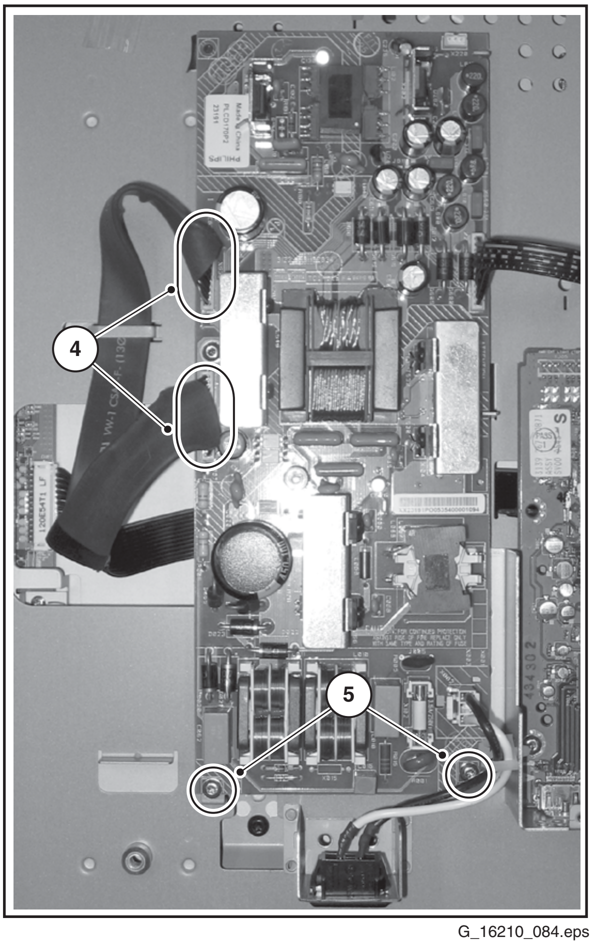
G_16210_082.eps
200106

Figure 4-13 LVDS connector



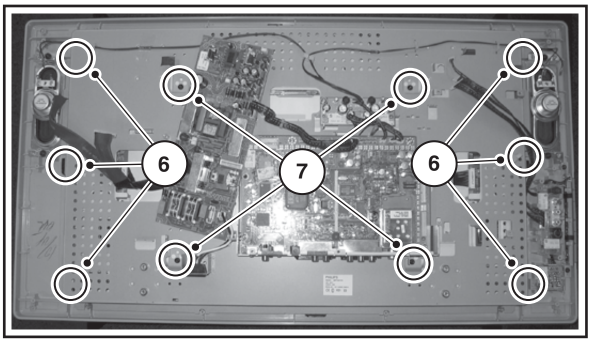
G_16210_083.eps
200106

Figure 4-14 SSB connectors for side I/O, side control panel, and LED



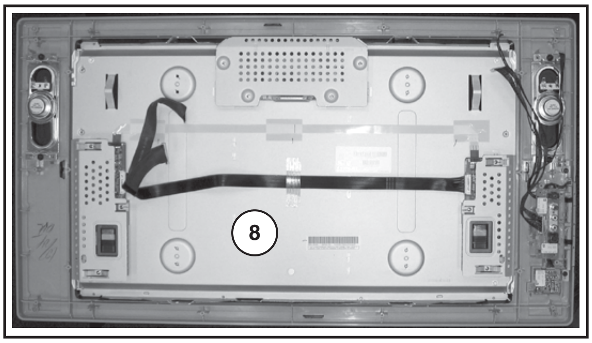
G_16210_084.eps
200106

Figure 4-15 Connectors X520 and X530 and fixation screws on power supply panel



G_16210_085.eps
200106

Figure 4-16 Shield screws of the LCD panel



G_16210_086.eps
200106

Figure 4-17 LCD panel

To remove the LCD-panel, carry out the following steps:

1. Disconnect the cables [1] from the “L” and the “R” loudspeakers (see Figure “Loudspeaker cables”).
2. **Important:** Unplug the LVDS connector [2] on the LCD panel (see Figure “LVDS connector”), or better: remove the cable completely.
   Be careful, as this is a very fragile connector/cable!
3. Unplug the connectors [3] of the Side I/O panel, the Top Control panel, and the LED panel on the SSB (see Figure “SSB connectors for side I/O, side control panel, and LED”).
4. Unplug the connectors X520 and X530 [4] on the Power Supply board (see Figure “Connectors X520 and X530 and fixation screws on power supply panel”).
5. Loosen the fixation screws [5] from the power supply board, and put the power supply board a bit aside.
6. Loosen screws [6] and [7] (see Figure “Shield screws of the LCD panel”).
7. Lift the metal frame (together with all PWBs) from the LCD panel.
   Take care not to damage the fragile LVDS cable.
8. After removal of the metal frame, you can lift the LCD display [8] from its plastic frame (see Figure “LCD panel”).
9. If the plastic frame is damaged, replace it by a new frame, after removing the loudspeakers, the Side I/O panel, the Side Control panel, and the LED panel.

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure “Cable dressing”.
  Be careful with the fragile LVDS cable.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

5.1 Test Points
5.2 Service Modes
5.3 Problems and Solving Tips Related to CSM
5.4 Service Tools
5.5 Error Codes
5.6 The Blinking LED Procedure
5.7 Fault Finding and Repair Tips

5.1 Test Points

This chassis is equipped with test points. In the schematics, test points are indicated with a rectangle box around Fxxx or Ixxx, in the layouts with a half-moon.
Perform measurements under the following conditions:

- Television set in Service Default Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

5.2 Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version read-out for all chassis.
Minimum requirements for ComPair: a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

5.2.1 Service Default Mode (SDM)

Purpose

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

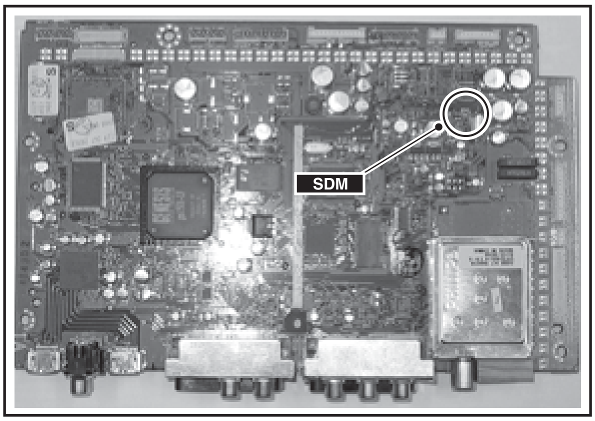
Specifications

- Tuning frequency: 475.25 MHz.
- Colour system: PAL-BG.
- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
  - Timer / Sleep timer.
  - Child / parental lock.
  - Blue mute.
  - Hotel / hospital mode.
  - Auto shut off (when no “IDENT” video signal is received for 15 minutes).
  - Skipping of non-favourite presets / channels.
  - Auto-storage of personal presets.
  - Auto user menu time-out.
  - Auto Volume Levelling (AVL).

How to Enter

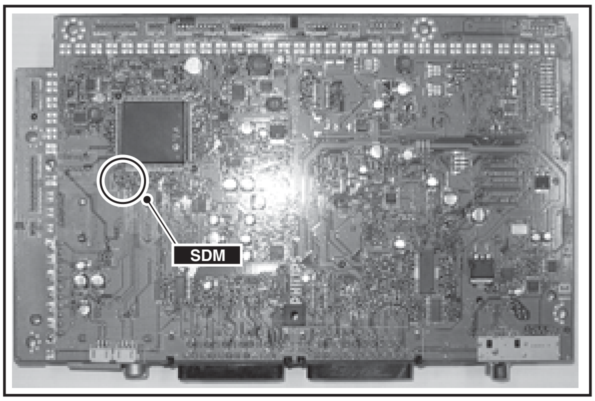
To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: “**062596**” directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
- Short one of the "Service" jumpers on the TV board during cold start and apply mains (see Figures "Service jumper"). Then press the mains button (remove the short after start-up).
  Caution: Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.



G_16210_087.eps
200106

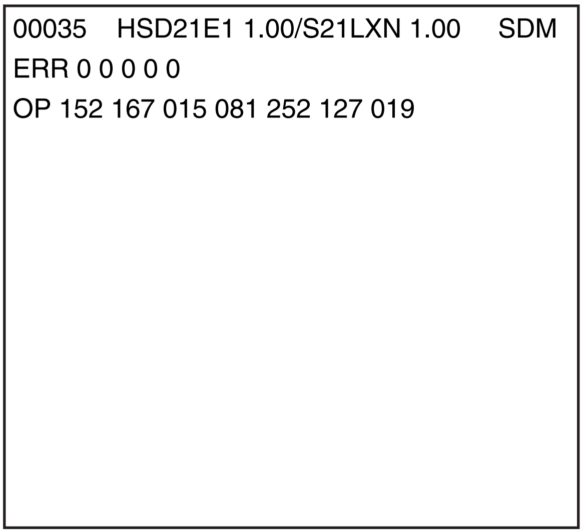
Figure 5-1 Service jumper (component side)



G_16210_088.eps
200106

Figure 5-2 Service jumper (solder side)

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.



```
00035   HSD21E1 1.00/S21LXN 1.00    SDM
ERR 0 0 0 0 0
OP 152 167 015 081 252 127 019
```

G_16210_089.eps
200106

Figure 5-3 SDM menu

How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse; or press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD button to switch to SAM (do not allow the display to time out between entries while keying the sequence).

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications

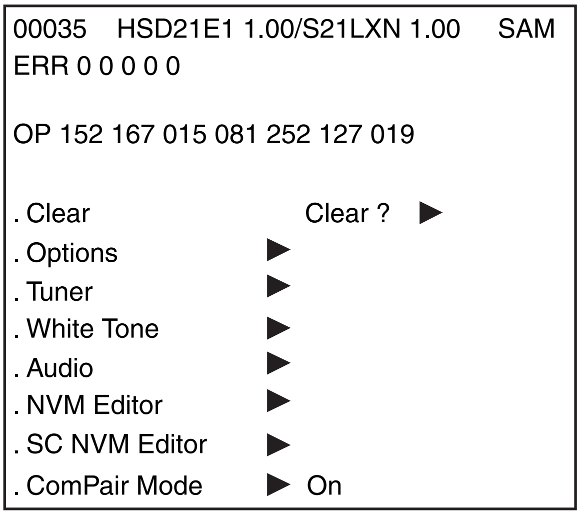
- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/ STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.



```
00035   HSD21E1 1.00/S21LXN 1.00    SAM
ERR 0 0 0 0 0

OP 152 167 015 081 252 127 019

. Clear                  Clear ?  ▶
. Options            ▶
. Tuner              ▶
. White Tone         ▶
. Audio              ▶
. NVM Editor         ▶
. SC NVM Editor      ▶
. ComPair Mode       ▶  On
```

G_16210_090.eps
200106

Figure 5-4 SAM menu

Menu Explanation

1. **LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD X.YY.** This is the software identification of the main microprocessor:
   - **A**= the project name (LC04.x).
   - **B**= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
   - **C**= the software diversity:
     - **Europe:** T= 1 page TXT, F= Full TXT, V= Voice control.
     - **LATAM and NAFTA:** N= Stereo non-dBx, S= Stereo dBx.
     - **Asian Pacific:** T= TXT, N= non-TXT, C= NTSC.
     - **ALL regions:** M= mono, D= DVD, Q= Mk2.
   - **D**= the language cluster number.
   - **X**= the main software version number (updated with a major change that is incompatible with previous versions).
   - **Y**= the sub software version number (updated with a minor change that is compatible with previous versions).
3. **EEEEE F.GG.** This is the software identification of the Scaler:
   - **EEEEEE**= the scaler sw cluster
   - **F**= the main sw version no.
   - **GG**= the sub-version no.
4. **SAM.** Indication of the Service Alignment Mode.
5. **Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
6. **Option Bytes.** Used to read-out the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
7. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
8. **Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
9. **Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Audio.** No audio alignment is necessary for this television set.
12. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.

13. **SC NVM Editor.** Can be used to edit Scaler NVM.
14. **ComPalr.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.
    Caution: When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be indicated. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  - Activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SAM to SDM and reverse; or press the following key sequence on the remote control transmitter: “**062596**” directly followed by the MENU button to switch to SDM (do not allow the display to time out between entries while keying the sequence).

How to Store SAM Settings

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set “off” by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

5.2.3 Customer Service Mode (CSM)

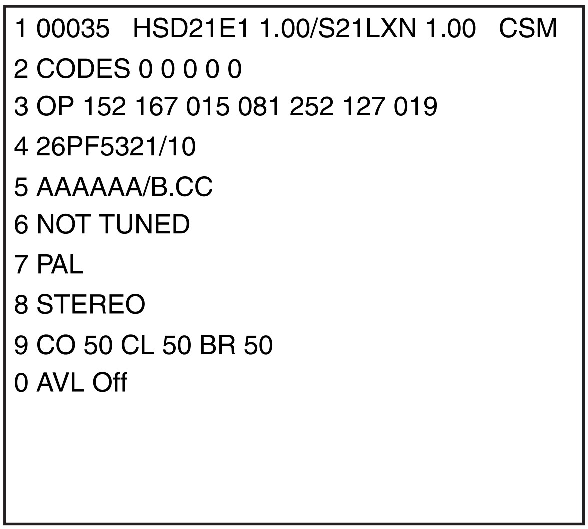
Purpose

The Customer Service Mode shows error codes and information on the TV’s operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.
The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to Enter

To enter CSM, press the following key sequence on the remote control transmitter: “**123654**” (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:



```
1 00035   HSD21E1 1.00/S21LXN 1.00   CSM
2 CODES 0 0 0 0 0
3 OP 152 167 015 081 252 127 019
4 26PF5321/10
5 AAAAAA/B.CC
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
```

G_16210_091.eps
200106

Figure 5-5 CSM menu

Menu Explanation

1. Indication of the decimal value of the operation hours counter, Main/Scaler software version (see “Service Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. **aaaaaa / b.ccc** Firmware identification of the Pacific 3 and the OTC:
   - **aaaaaa** = the firmware version of the Pacific 3 (Pixel+)
   - **b.ccc** = the firmware version of the OTC (for the 1000 page TXT decoder).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED".
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

How to Exit

To exit CSM, use one of the following methods:

- Press the MENU button twice, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.3 Problems and Solving Tips Related to CSM

5.3.1 Picture Problems

Note: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

Picture too Dark or too Bright

If:

- The picture improves when you press the SMART PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

White Line around Picture Elements and Text

If:

The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select SHARPNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

Snowy Picture

Check CSM line 6. If this line reads “Not Tuned”, check the following:

- Antenna not connected. Connect the antenna.
- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/repair the tuner if necessary.

Black and White Picture

If:

- The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select COLOUR.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

5.4 Service Tools

5.4.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I^2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I^2C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair fault finding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I^2C/UART level. ComPair can access the I^2C/UART bus of the television. ComPair can send and receive I^2C/UART commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I^2C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the fault finding tree by asking you questions *(e.g. Does the screen give a picture? Click on the correct answer: YES / NO)* and showing you examples *(e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope)*. You can answer by clicking on a link *(e.g. text or a waveform picture)* that will bring you to the next step in the fault finding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How to Connect

This is described in the chassis fault finding database in ComPair.

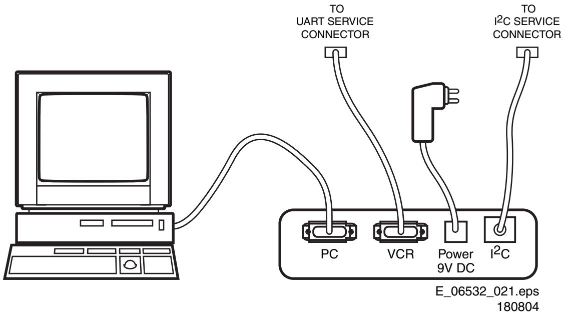


Figure 5-6 ComPair interface connection

How to Order

- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.
- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk.

5.4.2 LVDS Tool

Introduction

This service tool (also called “ComPair Assistant 1“) may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) **or** the display of a Flat TV is defective.
Furthermore it is possible to program EPLDs with this tool (Byte blaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (> 1280x960). Below this resolution, or when a DVI monitor is used, the displayed picture will be full size.

Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect

Connections are explained in the user manual, which is packed with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05).
For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order

- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- LVDS tool Service Manual: 3122 785 00810.
- LVDS cable 30p (for LC4.3): 3122 785 90821 (available soon).
- LVDS cable 41p -> 31p for HD PDPs (dual -> single LVDS): 3122 785 90831 (available soon).

5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:

- On screen via the SAM (if you have a picture).
  Examples:
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See “The Blinking LED Procedure”.
- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: “**062596**” directly followed by the OSD/i+ button (do not allow the display to time out between entries while keying the sequence).
  - Make sure the menu item CLEAR is selected. Use the MENU UP/DOWN buttons, if necessary.
  - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the “CLEAR” line will change from “CLEAR?” to “CLEARED”
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.5.3 Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.
If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

Table 5-1 Error code overview

Error	Error Description	Check Item	Diagram
0	No Error		
1	Mis-match of TV (Hercules) SW and Scaler SW	Software versions	N.A.
2	+12V from PSU error	PSU	A
3	Plasma I^{2}C error (only for plasma sets)	N.A.	N.A.
4	I^{2}C error while communicating with the Genesis Scaler	7801	B7 + B8
5	+5V protection	7752	B6
6	General I^{2}C error; communication between ADC, analogue tuner, and/or Columbus I^{2}C failed	1102, 7L01, 7M00	B1 + B18 + B19
7	I^{2}C error while communicating with ADC	7L01	B18
8	I^{2}C error while communicating with the Scaler EEPROM	7C01	B11
9	I^{2}C error while communicating with the Hercules EEPROM (NVM for TV). **Remark:** when the Hercules EEPROM is defective, the Hercules should operate with its default values.	7217	B2
10	I^{2}C error while communicating with the PLL tuner	1102	B1
11	I^{2}C error while communicating with the 3D combfilter IC-7M00 (Columbus)	7M00	B19
12	I^{2}C error while communicating with iBoard uP (only iTV sets)	N.A.	N.A.
13	I^{2}C error while communicating with the HDMI decoder IC-7D03 (only for NAFTA and AP)	N.A.	N.A.
14	Read-write error with the Scaler SDRAM	7B01	B10
15	I^{2}C error while communicating with the OTC	-	-
16	I^{2}C error while communicating with EPLD or Pacific III	7N02	B20 + B21
17	I^{2}C error while communicating with the Digital Module (only for digital sets)	N.A.	N.A.
18	IBO hardware error (only for digital sets)	N.A.	N.A.

5.6 The Blinking LED Procedure

Using this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful when there is no picture.

When the SDM is entered, the front LED will blink the contents of the error-buffer:

- The LED blinks with as many pulses as the error code number, followed by a time period of 1.5 seconds, in which the LED is off.
- Then this sequence is repeated.

Any RC5 command terminates this sequence.

Example of error buffer: **12 9 6 0 0**
After entering SDM, the following occurs:

- 1 long blink of 5 seconds to start the sequence,
- 12 short blinks followed by a pause of 1.5 seconds,
- 9 short blinks followed by a pause of 1.5 seconds,
- 6 short blinks followed by a pause of 1.5 seconds,
- 1 long blink of 1.5 seconds to finish the sequence,
- The sequence starts again with 12 short blinks.

5.7 Fault Finding and Repair Tips

Notes:

- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

5.7.1 NVM Editor

In some cases, it can be handy if one directly can change the NVM contents. This can be done with the “NVM Editor” in SAM mode. With this option, single bytes can be changed.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 5-2 NVM editor overview

	Hex	Dec	Description
.ADR	0x000A	10	Existing value
.VAL	0x0000	0	New value
.Store	Store?		

Table 5-3 NVM Default values (option bit settings through NVM Editor in SAM Mode)

Byte Nr.	Bit	Feature/Mode	Description	26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12
Byte 0 174(dec)	0	QSS (LSB)	Mode of quasi split sound amplifier	1
	1	FMI	Connection of output of QSS amplifier	1
	2	HCO	EHT tracking mode	0
	3	HP2	Synchronization of OSD/Text display	1
	4	FSL	Forced slicing level for vertical sync	1
	5	TFR	DC transfer ratio of luminance signal	1
	6	OSVE	Black current measuring in overscan	0
	7	MVK (MSB)	(For Future Usage, as defined by software)	0
		Total Dec Values		59
		Total Hex Values		3B
Byte 1 175(dec)	0	PSE	PSE	0
	1	OPC	OPC	0
	2	PRIS	PRIS	0
	3	CONTINUOUS FACTORY	Continuous factory mode	1
	4	WHITE PATTERN ON	Last colour pattern status in factory mode	0
	5	SDM MODE	Service default mode on/off	0
	6	SAM MODE	Service Align mode on/off	0
	7	SVMA	Scavem On / Off	0
		Total Dec Values		8
		Total Hex Values		08
Byte 2 176(dec)	0	MUTE STATUS	Mute status	0
	1	TUNER AUTO MODE	Auto mode	1
	2	CABLE MODE	Cable/Antenna mode	0
	3	LAST POWER MODE	Last power status of the set	1
	4	CHILD LOCK MODE	Child lock enabled	0
	5	SURF MODE	Surf mode on/off	0
	6	FACTORY MODE	Factory mode on	1
	7	PSNS	For PAL colour enhancement in ES4	1
		Total Dec Values		202
		Total Hex Values		CA
Byte 3 177(dec)	0	RADIO/TV MODE	Radio mode or TV mode	0
	1	WAKE-UP MODE	WAKE-UP MODE	0
	2	HOTEL MODE	TV in Hotel mode	0
	3	HOTEL KBD LOCK	Keyboard locked	0
	4	HBL	HBL	0
	5	BLS	Blue stretch mode	1
	6	SL	SL	0
	7	CFA0	Comb filter On/Off	0
		Total Dec Values		32
		Total Hex Values		20
Byte 4 178(dec)	0	Signal Strength	Signal Strength Switch in MK2	0
	1	LPG	LPG	0
	2	DVD TRAY LOCK	Lock/Unlock DVD tray	0
	3	SCRSAVER MODE	Screen saver mode	1
	4	BKS	Black Stretch Mode	1
	5	BSD	Black Stretch Depth	1
	6	CRA0	Coring on SVM	1
	7	PIP QSS	PIP QSS	0
		Total Dec Values		120
		Total Hex Values		78
Byte 5 179(dec)	0	FFI	Fast Filter	0
	1	NNR	No red reduction during blue stretch	1
	2	MUS	NTSC matrix	1
	3	GAM	Gamma control	1
	4	CBS	Control sequence of beam current limiting	0
	5	LLB	Low level of beam current limiter	0
	6	DSA	Dynamic skin tone angle area	1
	7	DSK	Dynamic skin tone angle on/ off	0
		Total Dec Values		78
		Total Hex Values		4E

Byte Nr.	Bit	Feature/Mode	Description	26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12
Byte 6 180(dec)	0	LTI status	LTI last status	0
	1	Inc_Life_Time	Inc_Life_Time	0
	2	PC_Mode	PC_Mode	0
	3	HD_Mode	HD_Mode	0
	4	Tact_Switch	Tact_Switch	0
	5	Set_In_Special_Stby	Set_In_Special_Stby	0
	6	Hotel_OSDDisplay	Hotel_OSDDisplay	0
	7	Hotel_MonitorOut	Hotel_MonitorOut	0
		Total Dec Values		0
		Total Hex Values		00
Byte 7 181(dec)	0	Hotel_IconMode	Hotel_IconMode	0
	1	DBE	DBE	1
	2	SD	SD	0
	3	Set_in_PC_Sleep_Mode	Set_in_PC_Sleep_Mode	0
	4	Reserved	Reserved	1
	5	Reserved	Reserved	0
	6	Reserved	Reserved	0
	7	Reserved	Reserved	0
		Total Dec Values		18
		Total Hex Values		12

5.7.2 Load Default NVM Values

In case a blank NVM is placed or when the NVM content is corrupted, default values can be downloaded into the NVM. (For empty NVM replacement, short the SDM with a jumper and apply the mains voltage. Remember to remove the jumper after the reload is completed). After the default values are downloaded, it will be possible to start up and to start aligning the TV set. This is no longer initiated automatically; to initiate the download the following action has to be performed:

1. Switch “off” the TV set by disconnecting the AC Power plug.
2. Short circuit an SDM jumper (keep short-circuited).
3. Press P+ or Ch+ on the local keyboard (and keep it pressed).
4. Switch on the TV set via the AC Power plug.
5. Keep pressing the P+/Ch+ button until the set has started up and the SDM is shown.

Alternative method:

1. Go to SAM.
2. Select NVM Editor (not SC NVM Editor).
3. Select ADR (address) to 1 (dec).
4. Change the VAL (value) to 170 (dec).
5. Store the value.
6. Disconnect the mains plug and wait for a few seconds.
7. Reconnect the mains plug and wait until the set goes into its standby mode (red LED lights up).
8. Restart the set.

5.7.3 Flash New Scaler Software

When you need to flash new scaler software, follow the instructions in ComPair. Make sure you put the set in one of the Service Modes, SDM/SAM/CSM, before you start flashing. This reduces the risk of the set hanging during the flashing procedure.

5.7.4 Tuner and IF

No Picture in RF Mode, but there is a Noise Raster

1. Check whether picture is present in AV. If not, go to Video processing troubleshooting section.
2. If present, check if the Option settings are correct.
3. Check if all the supply voltages are present (3.3/5/8/12/33 V).
4. Check if the I^2C lines are working correctly (3.3 V).
5. Manually store a known channel and check if there is IF output at Tuner pin 11.
6. Check the tuning DC voltage at pin 2 of the Tuner. The DC voltage should vary according to the frequency/channel being chosen.
7. If the tuning voltage is OK, check the tuner output, pin 11.
8. If it has no output, the Tuner may have a defect. Change the Tuner.

Sound in Picture Problem for L' System (rolling horizontal lines)

1. Check whether AGC L' in SAM mode is set to 0.
2. If yes, align the set to correct value.

Required System is not Selected Correctly

Check whether a Service jumper (#4204 & 4205, 0805 size) is present. If yes, remove it.

5.7.5 Video Processing

No Power

1. Check +12 V and 3V3 at position 1J02.
2. If no supply, first check the connector 1J02.
3. If the connector is correct, check the power supply board.

Power Supply is Correct, but no Green LED

1. Check if the connectors 1K00 are properly inserted.
2. If they are inserted correctly, check if the 3V3 is present.

No Picture Display (blank screen with correct sound output)

1. Check whether the user menu is visible.
2. If the user menu is OK, activate teletext mode.
3. If teletext is OK, the problem is in the ADC (B18) & Columbus 3D combfilter (B19), if present (depending on model, see also paragraph “Teletext Path” in chapter 9).
4. If the user menu is not visible, check if the LCD panel backlight is ON.
5. If the backlight is OFF, the problem is in the power supply board or LCD panel. Also check pin 12 (LAMP_ON_OFF) of 1J02. It should be HIGH during normal operation.

Note: For fault finding purposes, it is important to know the following: in Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video path (Hercules output), whereas the analogue RGB input (analogue input of the scaler) is only used for teletext. This means that no mixed mode (video plus teletext simultaneously) is possible. If there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - LCD panel) is faulty. In Crystal Clear models, which do not have an ADC and Columbus, the RGB path (analogue input of scaler) is used for both video and teletext.

No TV, but PC is Present

1. Check if Hsync_SDTV and Vsync_SDTV are present at pin 1 & pin13 of 7E03.
2. If they are present, check teletext output.
3. If there is no teletext output, the IC TDA150xx may be defect.

5.7.6 Power Supply

Check Fuse

The power supply (various models are used) contains one fuse near the AC input connector X002.

1. Check with power supply in “off” state by means of ohmic measurement.
2. Fuse X102 may open in case of severe lightning strikes and/or failures in the power supply.
3. Check the standby signal at pin 10 of X200. ON is HIGH, OFF is LOW. During standby mode only the 3V3 is present at pin 10.

Protections Concept on Power Supply Board (two models)

1. **12 V output (pin 8 of X200):** Short-circuit protected by 2.5 A fuse X610. Over-voltage protection when output voltage is more than 40% above nominal value.
2. **Vaudio output (+18 or +24 V, depending on power supply model used); (pin 1 of X200):** Short-circuit proof (+18 V version has 2.5 A fuse X660). Over voltage protection when output voltage is more than 40% above nominal value.
3. **3V3STBY output (pin 3&4 of X200):** Short-circuit proof with auto-restart. Over voltage protection when output voltage is more than 40% above nominal value.
4. **24 V output (for inverter X520 & X530):** Short-circuit proof with auto-restart. Over voltage protection when output voltage is more than 40% above nominal value.

Standby Mode

1. Apply a 12 ohm load resistor of sufficient power rating to all outputs mentioned above (+12 V, +18/ 24 V, +3V3 and +24 V). Connect the STBY pin (pin 10 of X200) to logical “L” (low), i.e. to GND.
2. Over an input voltage range of 90 V_{AC} to 276 V_{AC} only the +3V3 STBY output shall be up.

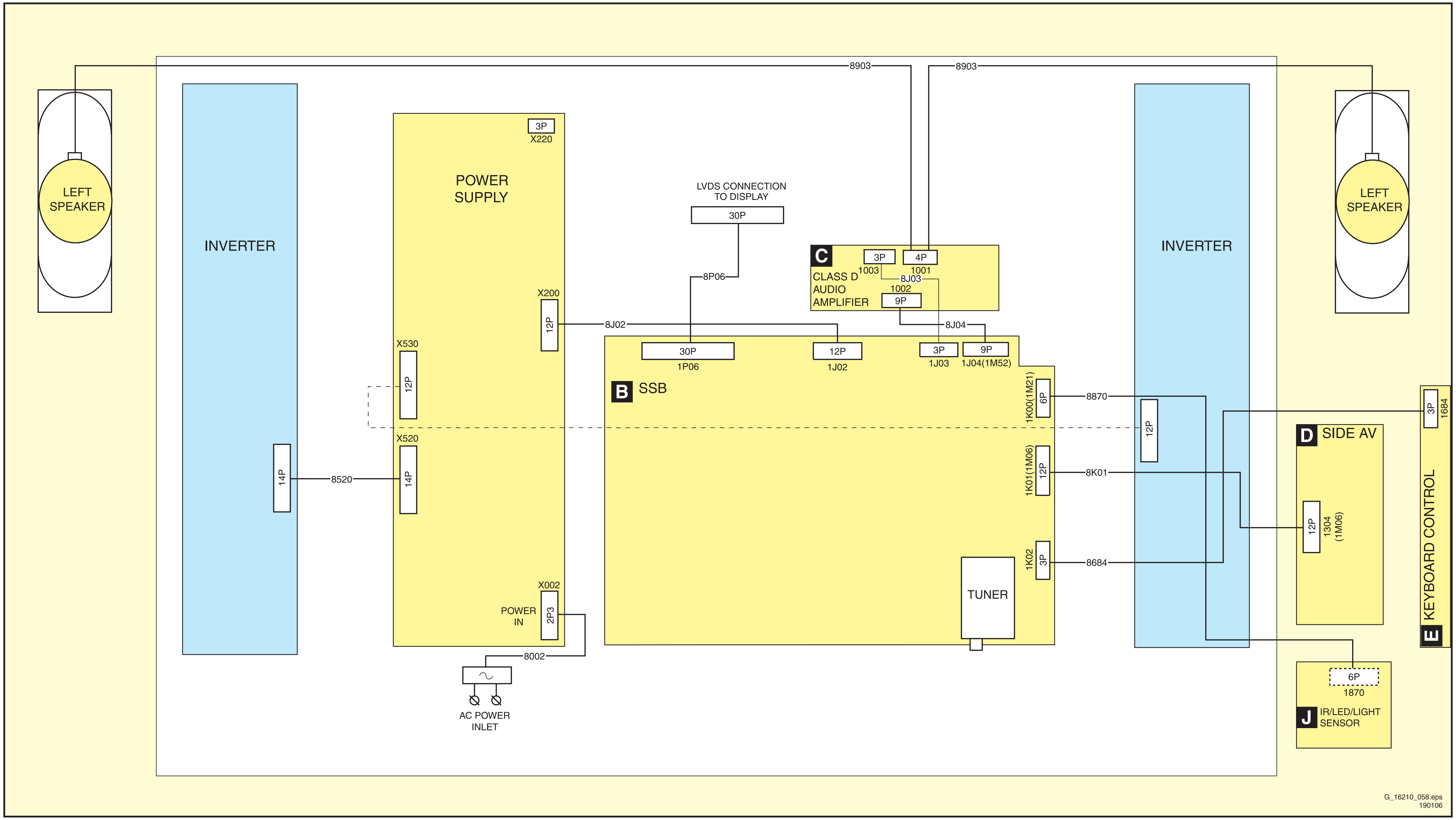
Normal Mode:

1. Apply a 12 ohm load resistor of sufficient power rating to all outputs mentioned above (+12 V, +18/ 24 V, +3V3 and +24 V). Connect the STBY pin (pin 10 of X200) to logical “H” (high), i.e. to the +3V3 STBY output via a 2,2 k pull up resistor.
2. Over an input voltage range of 90 V_{AC} to 276 V_{AC} all outputs shall be up. The voltage on the +3V3 STBY output shall be 3.3 V over the entire input voltage range. The voltage on the big 400 V capacitor on the power supply should also be 400 V ± 10%.

6. Block Diagrams, Test Point Overviews, and Waveforms

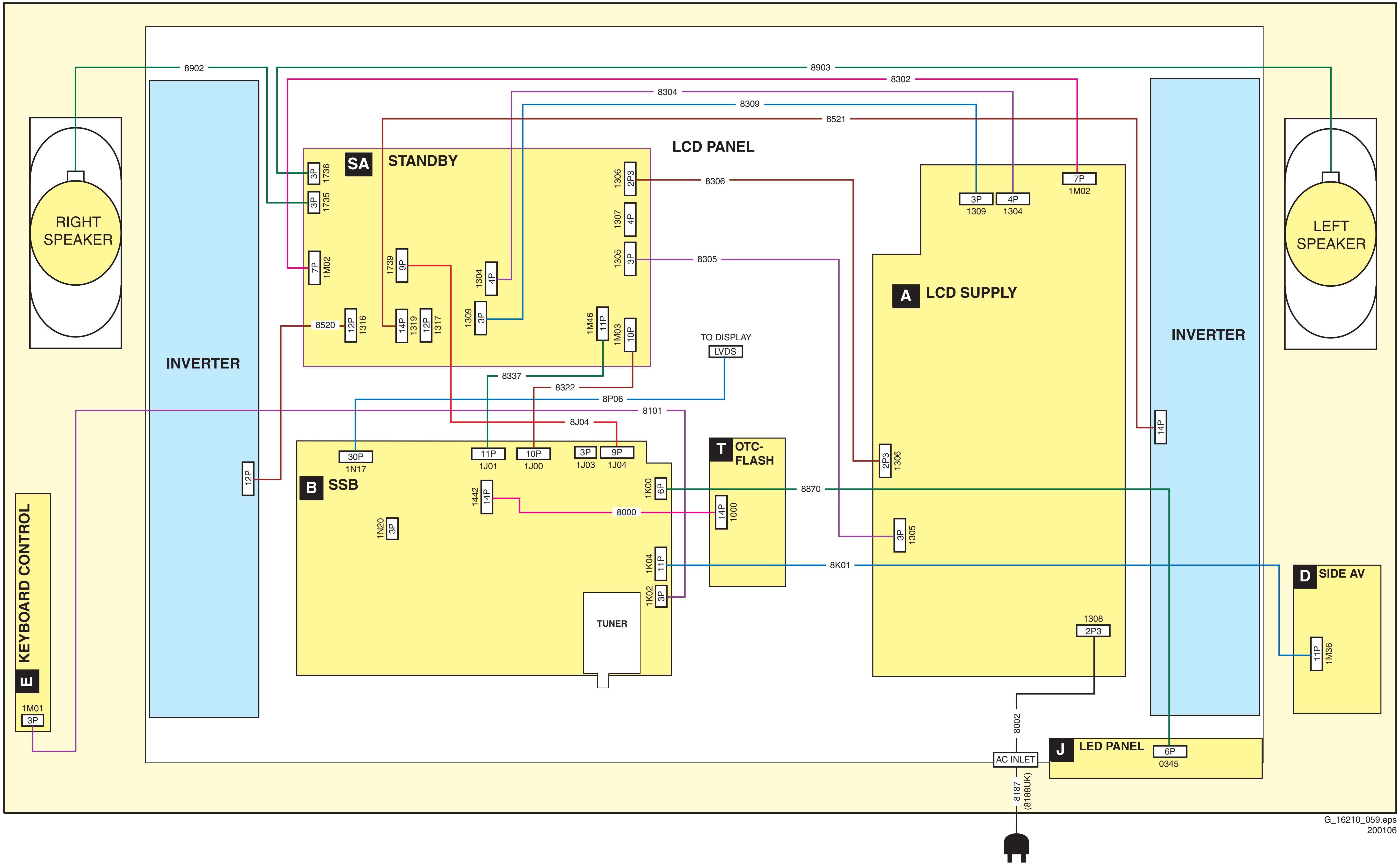
Wiring Diagram 26” & 32”

WIRING 26”- 32”


8903
8903
LEFT SPEAKER
INVERTER
3P
X220
POWER SUPPLY
X200
12P
X530
12P
X520
14P
14P
8520
X002
POWER IN
2P3
8002
AC POWER INLET
LVDS CONNECTION TO DISPLAY
30P
8P06
8J02
C
3P
4P
1003
1001
8J03
CLASS D AUDIO AMPLIFIER
1002
9P
8J04
30P
1P06
12P
1J02
3P
1J03
9P
1J04(1M52)
B SSB
1K00(1M21)
6P
8870
1K01(1M06)
12P
8K01
1K02
3P
8684
TUNER
INVERTER
12P
LEFT SPEAKER
D SIDE AV
12P
1304 (1M06)
3P
1684
E KEYBOARD CONTROL
6P
1870
J IR/LED/LIGHT SENSOR
G_16210_058.eps
190106

Wiring Diagram 37”

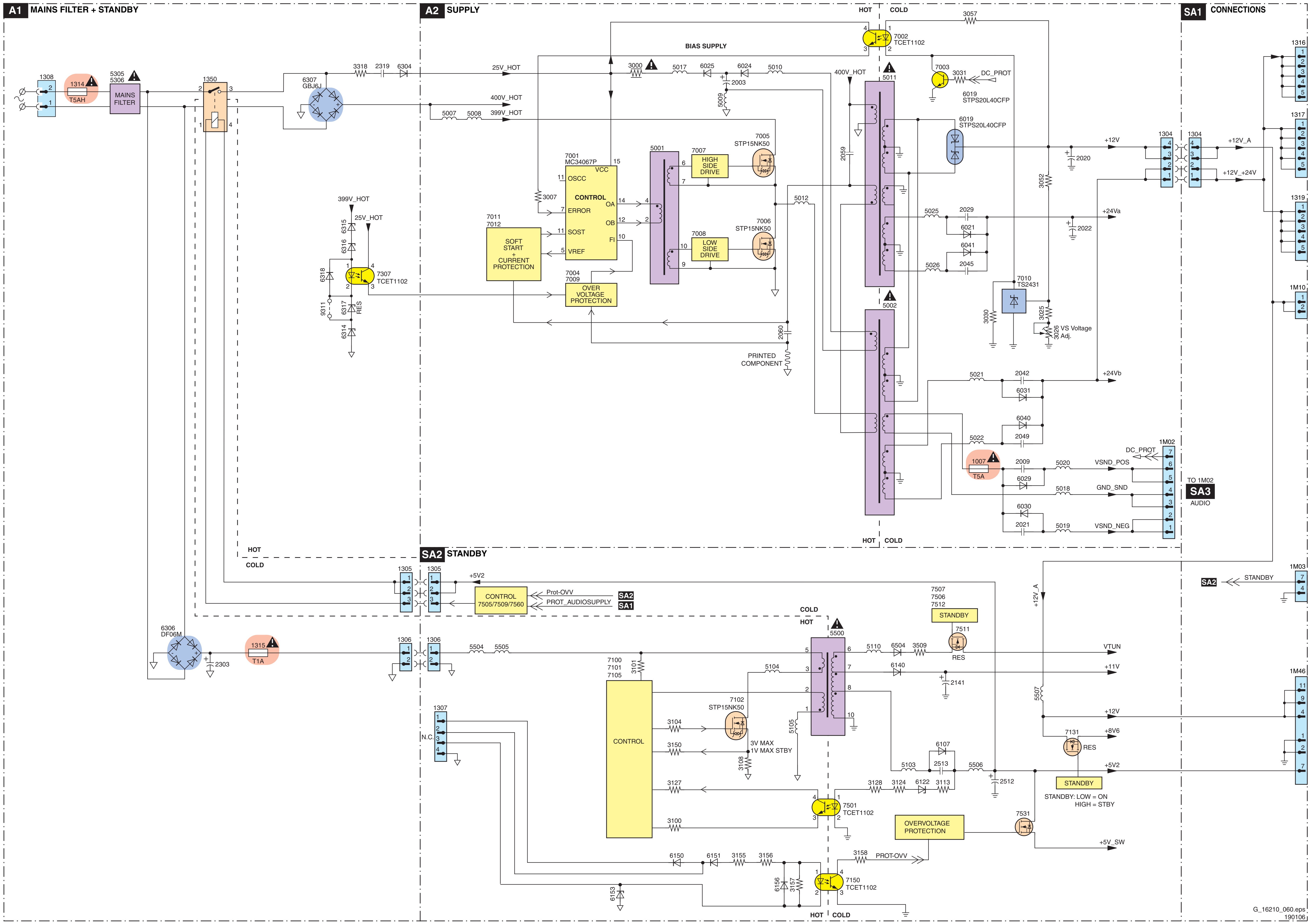
WIRING 37”


8902
8903
8302
8304
8309
8521
RIGHT SPEAKER
LEFT SPEAKER
INVERTER
INVERTER
LCD PANEL
SA
STANDBY
3P 1736
3P 1735
7P 1M02
9P 1739
4P 1304
3P 1309
12P 1316
14P 1319
12P 1317
8520
2P3 1306
4P 1307
3P 1305
11P 1M46
10P 1M03
8306
8305
TO DISPLAY
LVDS
8337
8322
8P06
8101
8J04
A
LCD SUPPLY
3P 1309
4P 1304
7P 1M02
14P
2P3 1306
3P 1305
1308 2P3
B
SSB
30P 1N17
11P 1J01
10P 1J00
3P 1J03
9P 1J04
1442 14P
1N20 3P
1K00 6P
1K04 11P
1K02 3P
TUNER
12P
T
OTC-FLASH
14P 1000
8870
8000
8K01
D
SIDE AV
11P 1M36
E
KEYBOARD CONTROL
1M01 3P
J
LED PANEL
6P 0345
8002
AC INLET
8187 (8188UK)

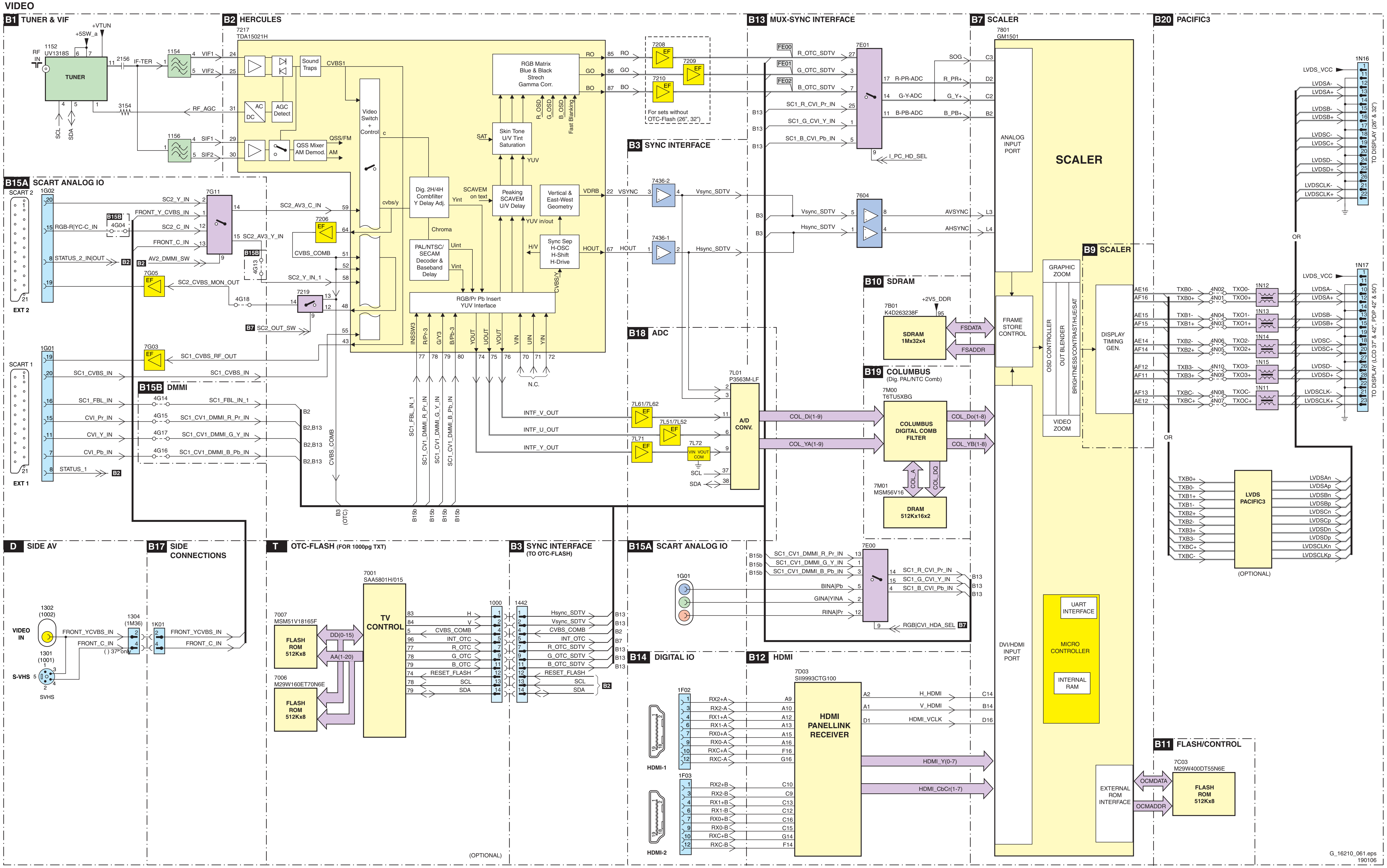
G_16210_059.eps
200106

Block Diagram Supply 37”

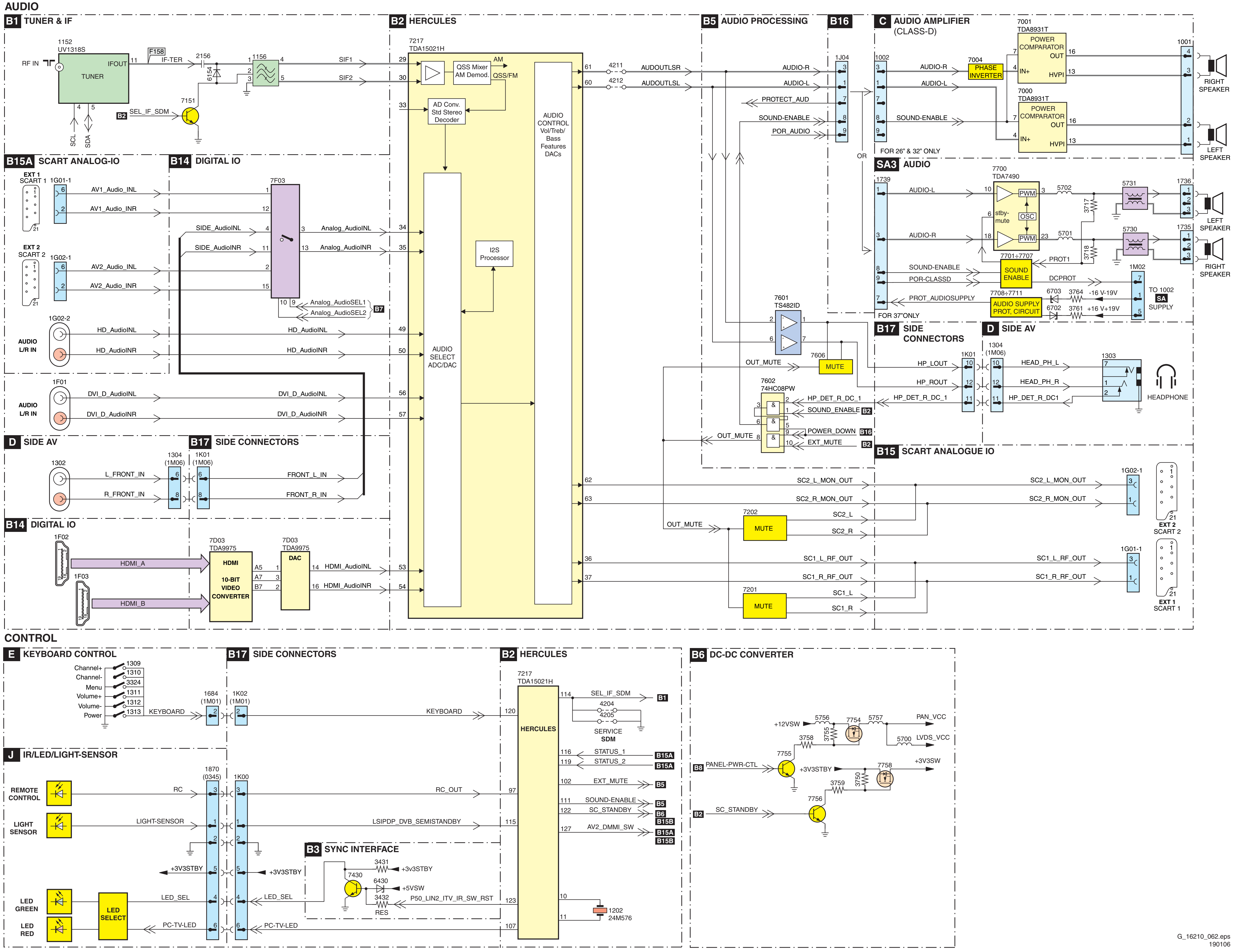
SUPPLY 37"


A1 MAINS FILTER + STANDBY
A2 SUPPLY
SA1 CONNECTIONS
SA2 STANDBY
1308
1314
T5AH
5305
5306
MAINS FILTER
1350
6307
GBJ6J
3318
2319
6304
25V_HOT
400V_HOT
5007
5008
399V_HOT
BIAS SUPPLY
3000
5017
6025
6024
5010
2003
5009
HOT
COLD
7002
TCET1102
3057
7003
3031
DC_PROT
6019
STPS20L40CFP
400V_HOT
5011
2059
7001
MC34067P
VCC
OSCC
CONTROL
ERROR
OA
OB
SOST
FI
VREF
3007
7011
7012
SOFT START + CURRENT PROTECTION
5001
7007
HIGH SIDE DRIVE
7005
STP15NK50
7008
LOW SIDE DRIVE
7006
STP15NK50
7004
7009
OVER VOLTAGE PROTECTION
5012
2060
PRINTED COMPONENT
399V_HOT
25V_HOT
6315
6316
6318
7307
TCET1102
6317
RES
9311
6314
+12V
2020
3052
5025
2029
6021
6041
5026
2045
+24Va
2022
7010
TS2431
3030
3025
3026
VS Voltage Adj.
5002
+24Vb
5021
2042
6031
6040
2049
5022
1007
T5A
2009
6029
6030
2021
5020
5018
5019
DC_PROT
VSND_POS
GND_SND
VSND_NEG
1M02
TO 1M02
SA3
AUDIO
1304
+12V_A
+12V_+24V
1316
TO DISPLAY
1317
TO DISPLAY
1319
TO DISPLAY
1M10
N.C.
HOT
COLD
1305
+5V2
CONTROL 7505/7509/7560
Prot-OVV
PROT_AUDIOSUPPLY
SA2
SA1
6306
DF06M
2303
1315
T1A
1306
5504
5505
7100
7101
7105
3101
CONTROL
5104
7102
STP15NK50
3104
3150
3V MAX
1V MAX STBY
3108
3127
3100
5105
5500
5110
6504
3509
7511
RES
6140
2141
7507
7506
7512
STANDBY
VTUN
+11V
+12V
+8V6
+5V2
+5V_SW
7131
RES
5507
+12V_A
STANDBY
STANDBY: LOW = ON HIGH = STBY
7531
OVERVOLTAGE PROTECTION
5103
2513
5506
6107
2512
3128
3124
6122
3113
7501
TCET1102
3158
PROT-OVV
7150
TCET1102
6150
6151
3155
3156
6156
3157
6153
1307
N.C.
1M03
TO 1M03
B16
SSB
STANDBY
1M46
TO 1M46
B16
SSB
G_16210_060.eps
190106

Block Diagram Video

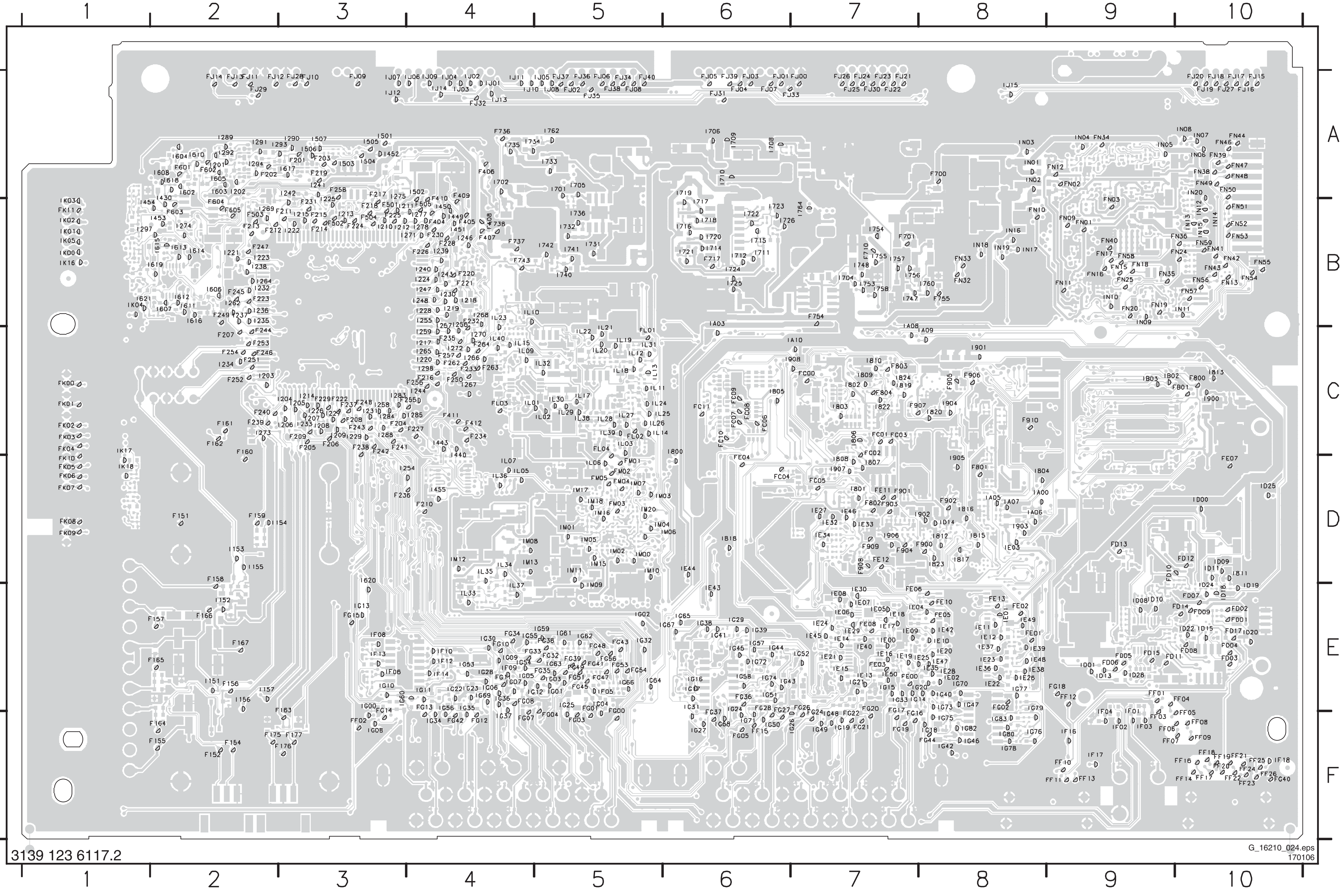

VIDEO
B1 TUNER & VIF
+VTUN
+5SW_a
1152
UV1318S
RF IN
TUNER
2156
IF-TER
1154
VIF1
VIF2
3154
RF_AGC
1156
SIF1
SIF2
SCL
SDA
B2 HERCULES
7217
TDA15021H
Sound Traps
CVBS1
AC DC
AGC Detect
QSS Mixer AM Demod.
QSS/FM
AM
Video Switch + Control
RGB Matrix Blue & Black Strech Gamma Corr.
R_OSD
G_OSD
B_OSD
Fast Blanking
SAT
Skin Tone U/V Tint Saturation
YUV
Dig. 2H/4H Combfilter Y Delay Adj.
SCAVEM on text
Yint
Peaking SCAVEM U/V Delay
Vertical & East-West Geometry
VDRB
Chroma
YUV in/out
PAL/NTSC/ SECAM Decoder & Baseband Delay
Uint
Vint
H/V
Sync Sep H-OSC H-Shift H-Drive
HOUT
CVBS/Y
RGB/Pr Pb Insert YUV Interface
INSSW3
R/Pr-3
G/Y3
B/Pb-3
YOUT
UOUT
VOUT
VIN
UIN
YIN
N.C.
cvbs/y
RO
GO
BO
VSYNC
HOUT
7208
7209
7210
EF
For sets without OTC-Flash (26", 32")
B3 SYNC INTERFACE
7436-2
7436-1
Vsync_SDTV
Hsync_SDTV
B13 MUX-SYNC INTERFACE
FE00
FE01
FE02
R_OTC_SDTV
G_OTC_SDTV
B_OTC_SDTV
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
7E01
R-PR-ADC
G-Y-ADC
B-PB-ADC
I_PC_HD_SEL
SOG
R_PR+
G_Y+
B_PB+
7604
AVSYNC
AHSYNC
B7 SCALER
7801
GM1501
ANALOG INPUT PORT
SCALER
FRAME STORE CONTROL
GRAPHIC ZOOM
OSD CONTROLLER
OUT BLENDER
BRIGHTNESS/CONTRAST/HUE/SAT
DISPLAY TIMING GEN.
VIDEO ZOOM
DVI/HDMI INPUT PORT
UART INTERFACE
MICRO CONTROLLER
INTERNAL RAM
EXTERNAL ROM INTERFACE
OCMDATA
OCMADDR
B9 SCALER
B10 SDRAM
+2V5_DDR
7B01
K4D263238F
SDRAM 1Mx32x4
FSDATA
FSADDR
B19 COLUMBUS
(Dig. PAL/NTC Comb)
7M00
T6TU5XBG
COLUMBUS DIGITAL COMB FILTER
COL_Do(1-8)
COL_YB(1-8)
COL_A
COL_DQ
7M01
MSM56V16
DRAM 512Kx16x2
B18 ADC
7L01
P3563M-LF
A/D CONV.
COL_Di(1-9)
COL_YA(1-9)
7L61/7L62
7L51/7L52
7L71
7L72
VIN VOUT COM
SCL
SDA
INTF_V_OUT
INTF_U_OUT
INTF_Y_OUT
B20 PACIFIC3
1N16
LVDS_VCC
LVDSA- LVDSA+ LVDSB- LVDSB+ LVDSC- LVDSC+ LVDSD- LVDSD+ LVDSCLK- LVDSCLK+
TO DISPLAY (26" & 32")
OR
1N17
1N12 1N13 1N14 1N15 1N11
TXB0- TXB0+ TXB1- TXB1+ TXB2- TXB2+ TXB3- TXB3+ TXBC- TXBC+
TXO0- TXO0+ TXO1- TXO1+ TXO2- TXO2+ TXO3- TXO3+ TXOC- TXOC+
TO DISPLAY (LCD 37" & 42", PDP 42" & 50")
LVDS PACIFIC3
(OPTIONAL)
LVDSAn LVDSAp LVDSBn LVDSBp LVDSCn LVDSCp LVDSDn LVDSDp LVDSCLKn LVDSCLKp
B15A SCART ANALOG IO
SCART 2
1G02
EXT 2
SC2_Y_IN
FRONT_Y_CVBS_IN
RGB-R|YC-C_IN
SC2_C_IN
FRONT_C_IN
STATUS_2_IN|OUT
AV2_DMMI_SW
7G11
SC2_AV3_C_IN
SC2_AV3_Y_IN
7206
CVBS_COMB
SC2_Y_IN_1
7G05
SC2_CVBS_MON_OUT
4G18
7219
SC2_OUT_SW
B15B
4G04
4G13
SCART 1
1G01
EXT 1
7G03
SC1_CVBS_RF_OUT
SC1_CVBS_IN
SC1_FBL_IN
CVI_Pr_IN
CVI_Y_IN
CVI_Pb_IN
STATUS_1
B15B DMMI
4G14 4G15 4G17 4G16
SC1_FBL_IN_1
SC1_CV1_DMMI_R_Pr_IN
SC1_CV1_DMMI_G_Y_IN
SC1_CV1_DMMI_B_Pb_IN
CVBS_COMB
B3 (OTC)
D SIDE AV
1302 (1002)
VIDEO IN
FRONT_YCVBS_IN
FRONT_C_IN
1301 (1001)
S-VHS
SVHS
1304 (1M36)
( ) 37" only
B17 SIDE CONNECTIONS
1K01
T OTC-FLASH (FOR 1000pg TXT)
7001
SAA5801H/015
TV CONTROL
7007
MSM51V18165F
FLASH ROM 512Kx8
DD(0-15)
AA(1-20)
7006
M29W160ET70N6E
H V CVBS_COMB INT_OTC R_OTC G_OTC B_OTC RESET_FLASH SCL SDA
1000
1442
B3 SYNC INTERFACE (TO OTC-FLASH)
Hsync_SDTV Vsync_SDTV CVBS_COMB INT_OTC R_OTC_SDTV G_OTC_SDTV B_OTC_SDTV RESET_FLASH SCL SDA
(OPTIONAL)
B15A SCART ANALOG IO
1G01
7E00
SC1_CV1_DMMI_R_Pr_IN
SC1_CV1_DMMI_G_Y_IN
SC1_CV1_DMMI_B_Pb_IN
BINA|Pb
GINA|YINA
RINA|Pr
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
RGB|CVI_HDA_SEL
B14 DIGITAL IO
1F02
HDMI-1
1F03
HDMI-2
RX2+A RX2-A RX1+A RX1-A RX0+A RX0-A RXC+A RXC-A
RX2+B RX2-B RX1+B RX1-B RX0+B RX0-B RXC+B RXC-B
B12 HDMI
7D03
SII9993CTG100
HDMI PANELLINK RECEIVER
H_HDMI
V_HDMI
HDMI_VCLK
HDMI_Y(0-7)
HDMI_CbCr(1-7)
B11 FLASH/CONTROL
7C03
M29W400DT55N6E
FLASH ROM 512Kx8
G_16210_061.eps
190106

Block Diagram Audio

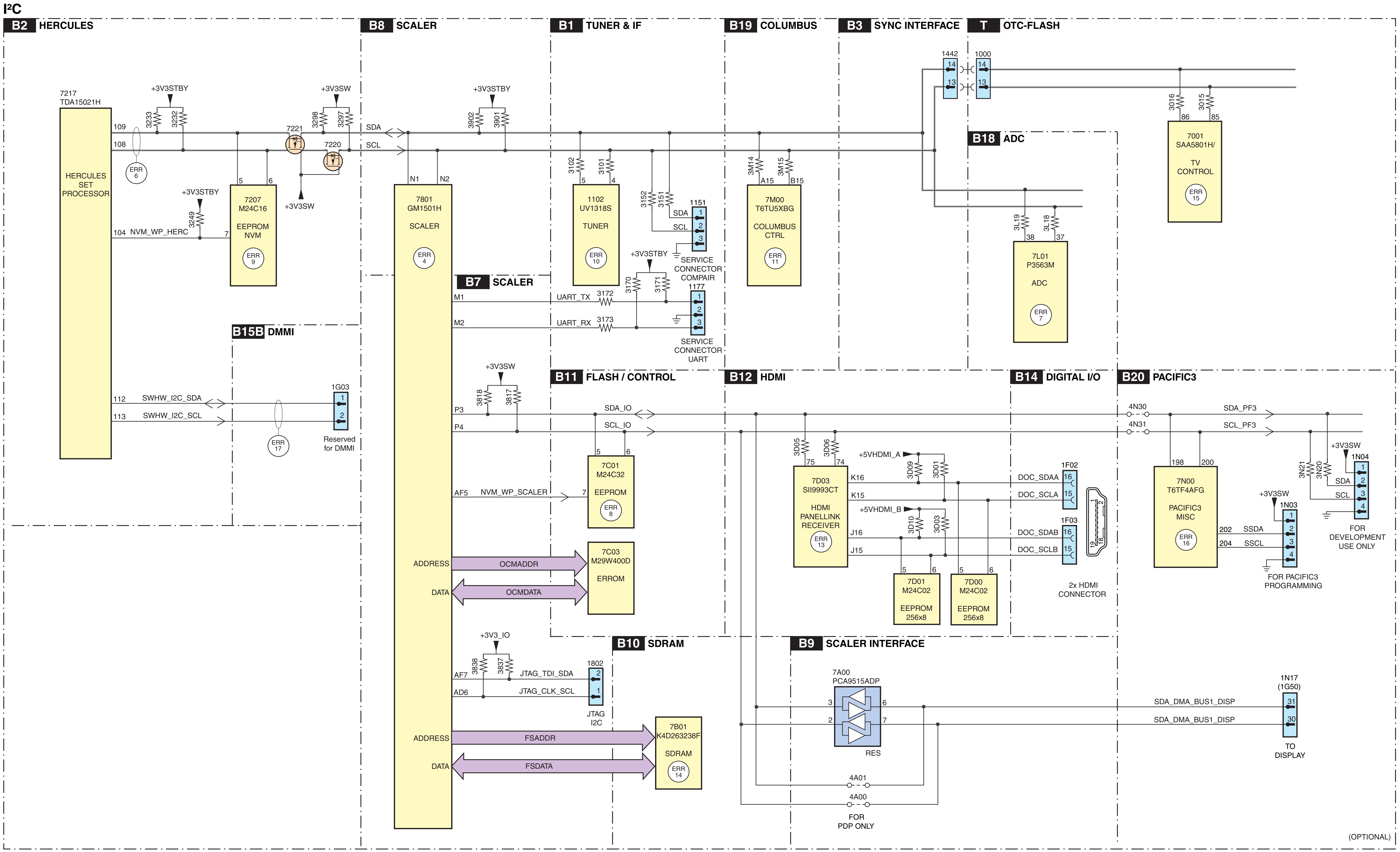

AUDIO
B1 TUNER & IF
1152
UV1318S
RF IN
IFOUT
TUNER
F158
IF-TER
2156
6154
1156
7151
SEL_IF_SDM
SCL
SDA
SIF1
SIF2
B2 HERCULES
7217
TDA15021H
QSS Mixer
AM Demod.
AM
QSS/FM
AD Conv.
Std Stereo
Decoder
AUDIO
CONTROL
Vol/Treb/
Bass
Features
DACs
I2S
Processor
AUDIO
SELECT
ADC/DAC
4211
4212
AUDOUTLSR
AUDOUTLSL
B5 AUDIO PROCESSING
B16
1J04
AUDIO-R
AUDIO-L
PROTECT_AUD
SOUND-ENABLE
POR_AUDIO
OR
C AUDIO AMPLIFIER
(CLASS-D)
1002
7004
PHASE
INVERTER
7001
TDA8931T
POWER
COMPARATOR
OUT
IN+
HVPI
7000
TDA8931T
1001
RIGHT
SPEAKER
LEFT
SPEAKER
FOR 26" & 32" ONLY
SA3 AUDIO
1739
7700
TDA7490
PWM
OSC
stby-
mute
5702
5701
5731
5730
3717
3718
1736
1735
7701÷7707
PROT1
SOUND
ENABLE
DCPROT
1M02
POR-CLASSD
PROT_AUDIOSUPPLY
7708÷7711
AUDIO SUPPLY
PROT. CIRCUIT
6703
6702
3764
3761
-16 V-19V
+16 V+19V
TO 1002
SA
SUPPLY
FOR 37"ONLY
7601
TS482ID
7606
MUTE
OUT_MUTE
7602
74HC08PW
HP_DET_R_DC_1
SOUND_ENABLE
POWER_DOWN
EXT_MUTE
B17 SIDE
CONNECTORS
1K01
D SIDE AV
1304
(1M06)
HP_LOUT
HP_ROUT
HP_DET_R_DC_1
HEAD_PH_L
HEAD_PH_R
HP_DET_R_DC1
1303
HEADPHONE
B15 SCART ANALOGUE IO
B15A SCART ANALOG-IO
EXT 1
SCART 1
1G01-1
AV1_Audio_INL
AV1_Audio_INR
EXT 2
SCART 2
1G02-1
AV2_Audio_INL
AV2_Audio_INR
1G02-2
AUDIO
L/R IN
HD_AudioINL
HD_AudioINR
B14 DIGITAL IO
7F03
SIDE_AudioINL
SIDE_AudioINR
Analog_AudioINL
Analog_AudioINR
Analog_AudioSEL1
Analog_AudioSEL2
B7
1F01
DVI_D_AudioINL
DVI_D_AudioINR
D SIDE AV
1302
L_FRONT_IN
R_FRONT_IN
B17 SIDE CONNECTORS
1304
(1M06)
1K01
(1M06)
FRONT_L_IN
FRONT_R_IN
B14 DIGITAL IO
1F02
1F03
HDMI_A
HDMI_B
7D03
TDA9975
HDMI
10-BIT
VIDEO
CONVERTER
DAC
HDMI_AudioINL
HDMI_AudioINR
SC2_L_MON_OUT
SC2_R_MON_OUT
7202
MUTE
SC2_L
SC2_R
SC1_L_RF_OUT
SC1_R_RF_OUT
7201
SC1_L
SC1_R
1G02-1
1G01-1
CONTROL
E KEYBOARD CONTROL
Channel+
Channel-
Menu
Volume+
Volume-
Power
1309
1310
3324
1311
1312
1313
KEYBOARD
1684
(1M01)
1K02
(1M01)
B17 SIDE CONNECTORS
B2 HERCULES
7217
TDA15021H
HERCULES
SEL_IF_SDM
4204
4205
SERVICE
SDM
STATUS_1
STATUS_2
EXT_MUTE
SOUND-ENABLE
SC_STANDBY
AV2_DMMI_SW
1202
24M576
J IR/LED/LIGHT-SENSOR
1870
(0345)
1K00
REMOTE
CONTROL
RC
RC_OUT
LIGHT
SENSOR
LIGHT-SENSOR
LSIPDP_DVB_SEMISTANDBY
+3V3STBY
LED
GREEN
LED
RED
LED
SELECT
LED_SEL
PC-TV-LED
B3 SYNC INTERFACE
3431
7430
6430
3432
+3v3STBY
+5VSW
P50_LIN2_ITV_IR_SW_RST
RES
B6 DC-DC CONVERTER
+12VSW
5756
3755
7754
5757
PAN_VCC
5700
LVDS_VCC
3758
7755
PANEL-PWR-CTL
+3V3STBY
+3V3SW
7758
3750
3759
7756
SC_STANDBY
G_16210_062.eps
190106

Test Point Overview Small Signal Board

F151	D2
F152	F2
F154	F2
F155	F2
F156	E2
F157	E2
F158	D2
F159	D2
F160	C2
F161	C2
F162	C2
F163	E3
F164	F2
F165	E2
F166	E2
F167	E2
F175	F2
F176	F3
F177	F3
F201	A3
F202	A2
F203	A3
F204	C3
F205	C3
F206	C3
F207	C2
F208	C3
F209	C3
F210	D4
F211	B3
F212	B2
F213	B2
F214	B3
F215	B3
F216	C4
F217	A3
F218	B3
F219	A3
F220	B4
F221	B4
F222	C3
F223	B2
F224	B3
F225	B3
F226	B4
F227	C4
F228	B4
F229	C3
F230	B4
F231	B3
F232	B4
F233	C4
F234	C4
F235	C4
F236	D3
F237	C3
F238	C3
F239	C2
F240	C2
F241	C3
F242	C3
F243	C3
F244	C2
F245	B2
F246	C2
F247	B2
F248	C3
F249	B2
F250	C4
F251	C2
F252	C2
F253	C2
F254	C2
F255	C4
F256	C4
F257	C4
F258	A3
F262	C4
F263	C4
F264	C4
F404	B4
F405	B4
F406	A4
F407	B4
F408	B4
F409	A4
F410	B4
F411	C4
F412	C4
F501	B3
F502	B3
F503	B2
F504	B3
F505	B4
F601	A2
F602	A2
F603	B2
F604	B2
F605	B2
F700	A8
F701	B7
F710	B7
F717	B6
F736	A4
F737	B4
F738	B4
F743	B4
F754	B7
F755	B8
F800	C10
F801	D8
F802	D7
F803	C7
F804	C7
F900	D8
F901	D7
F902	D8
F903	D7
F904	D7
F905	C8
F906	C8
F907	C7
F908	D7
F909	D7
F910	C8
FB01	C10
FC00	C7
FC01	C7
FC02	C7
FC03	C7
FC04	D6
FC05	D7
FC06	C6
FC07	C6
FC08	C6
FC09	C6
FC10	C6
FC11	C6
FD01	E10
FD02	E10
FD03	E10
FD04	E10
FD05	E9
FD06	E9
FD07	E10
FD08	E10
FD09	E10
FD10	D9
FD11	E9
FD12	D10
FD13	D9
FD14	E10
FD15	E9
FD17	E10
FE00	E7
FE01	E8
FE02	E8
FE03	E7
FE04	D6
FE05	E8
FE06	E7
FE07	D10
FE08	E7
FE10	E8
FE11	D7
FE12	D7
FE13	E8
FF01	E9
FF02	F3
FF03	F9
FF04	E10
FF05	F10
FF06	F9
FF07	F9
FF08	F10
FF09	F10
FF10	F9
FF11	F9
FF12	E9
FF13	F9
FF14	F10
FF15	F6
FF16	F10
FF17	F10
FF18	F10
FF19	F10
FF20	F10
FF21	F10
FF22	F10
FF23	F10
FF24	F10
FF25	F10
FF26	F10
FG00	E5
FG01	E5
FG02	E8
FG03	F5
FG04	F5
FG05	F6
FG07	F4
FG08	E4
FG10	E4
FG11	E4
FG12	F4
FG13	E4
FG14	E3
FG15	E3
FG16	F7
FG17	E7
FG18	E9
FG19	F7
FG20	E7
FG21	F7
FG22	F7
FG24	F7
FG26	E7
FG27	E6
FG28	E6
FG32	E5
FG33	E4
FG34	E4
FG35	E5
FG36	E6
FG37	F6
FG38	E5
FG39	E5
FG40	F10
FG41	E5
FG42	F4
FG43	E5
FG44	F8
FG45	E5
FG47	E5
FG48	E5
FG49	E5
FG51	E5
FG53	E5
FG54	E5
FG56	E5
FJ00	A7
FJ01	A6
FJ02	A5
FJ03	A6
FJ04	A6
FJ05	A6
FJ06	A5
FJ07	A6
FJ08	A5
FJ09	A3
FJ10	A3
FJ11	A2
FJ12	A2
FJ13	A2
FJ14	A2
FJ15	A10
FJ16	A10
FJ17	A10
FJ18	A10
FJ19	A10
FJ20	A10
FJ21	A7
FJ22	A7
FJ23	A7
FJ24	A7
FJ25	A7
FJ26	A7
FJ27	A10
FJ28	A3
FJ29	A2
FJ30	A7
FJ31	A6
FJ32	A4
FJ33	A7
FJ34	A5
FJ35	A5
FJ36	A5
FJ37	A5
FJ38	A5
FJ39	A6
FJ40	A5
FK00	C1
FK01	C1
FK02	C1
FK03	C1
FK04	C1
FK05	D1
FK06	D1
FK07	D1
FK08	D1
FK09	D1
FK10	D1
FK11	B1
FL01	C5
FL02	C5
FL03	C4
FL04	C5
FM01	D5
FM02	D5
FM03	D5
FM04	D5
FM05	D5
FN01	B9
FN02	A9
FN03	B9
FN09	B9
FN10	B8
FN11	B9
FN12	A9
FN13	B10
FN15	B9
FN16	B9
FN17	B9
FN18	B9
FN19	B9
FN20	B9
FN24	B10
FN25	B9
FN32	B8
FN33	B8
FN34	A9
FN35	B9
FN36	B10
FN38	A10
FN39	A10
FN40	B9
FN41	B10
FN42	B10
FN43	B10
FN44	A10
FN46	A10
FN47	A10
FN48	A10
FN49	A10
FN50	A10
FN51	B10
FN52	B10
FN53	B10
FN54	B10
FN55	B10
FN56	B10
FN57	B10
FN58	B9
FN59	B10
I151	E2
I152	E2
I153	D2
I154	D3
I155	D2
I156	E2
I157	E2
I201	A2
I202	A2
I203	C2
I204	C3
I205	C3
I206	C3
I207	C3
I208	C3
I209	C3
I210	B3
I211	B3
I212	B3
I213	B3
I214	C3
I215	B3
I217	C4
I218	B4
I219	B4
I220	C4
I221	B2
I222	B3
I223	B2
I224	B4
I225	B3
I226	C3
I227	C3
I228	B4
I229	C3
I230	B4
I231	C3
I232	B2
I233	C3
I234	C2
I235	B2
I236	B2
I237	B2
I238	B2
I239	B4
I240	B4
I241	A3
I242	A3
I243	B4
I244	C4
I246	B4
I247	B4
I248	B4
I254	D4
I255	B4
I256	B4
I257	B4
I258	C3
I259	C4
I262	B2
I264	B2
I265	C4
I266	C4
I267	C4
I268	B4
I269	B2
I270	C4
I271	B4
I272	C4
I273	C2
I274	B2
I275	A3
I277	B4
I278	B4
I283	C3
I284	C3
I285	C4
I288	C3
I289	A2
I290	A3
I291	A2
I292	A2
I293	A3
I294	A2
I297	B1
I298	C4
I430	A2
I440	D4
I443	C4
I449	B4
I450	B4
I451	B4
I452	A3
I453	B2
I454	B1
I455	D4
I501	A3
I502	A4
I503	A3
I504	A3
I505	A3
I506	A3
I507	A3
I602	A2
I603	A2
I604	A2
I605	A2
I606	B2
I607	B2
I608	A2
I610	A2
I611	B2
I612	B2
I613	B2
I614	B2
I615	B2
I616	B2
I617	A3
I618	A2
I619	B2
I620	D3
I621	B1
I701	A5
I702	A4
I704	B7
I705	A5
I706	A6
I708	A6
I709	A6
I710	A6
I711	B6
I712	B6
I714	B6
I715	B6
I716	B6
I717	B6
I718	B6
I719	A6
I720	B6
I721	B6
I722	B6
I723	B6
I724	B6
I725	B6
I726	B6
I731	B5
I732	B5
I733	A5
I734	A4
I735	A4
I736	B5
I740	B5
I741	B5
I742	B5
I747	B7
I748	B7
I753	B7
I754	B7
I755	B7
I756	B7
I757	B7
I758	B7
I760	B8
I762	A5
I764	B7
I800	C6
I801	D7
I802	C7
I803	C7
I804	D8
I805	C6
I806	C7
I807	D7
I808	D7
I809	C7
I810	C7
I811	D10
I812	D8
I813	C10
I815	D8
I816	D8
I817	D8
I818	D6
I819	C7
I820	C8
I822	C7
I823	D8
I824	C7
I900	C10
I901	C8
I902	D8
I903	D8
I904	C8
I905	D8
I906	D7
I907	D7
I908	C7
IA00	D8
IA03	B6
IA05	D8
IA06	D8
IA07	D8
IA08	B7
IA09	C8
IA10	C7
IB02	C9
IB03	C9
ID00	D10
ID01	E9
ID08	E9
ID09	D10
ID10	E9
ID11	D10
ID13	E9
ID14	D8
ID15	E10
ID18	E10
ID19	E10
ID20	E10
ID22	E10
ID24	E10
ID25	D10
ID28	E9
IE00	E7
IE01	E8
IE02	E8
IE03	D8
IE04	E7
IE05	E7
IE06	E7
IE07	E7
IE08	E7
IE09	E7
IE10	E8
IE11	E8
IE12	E8
IE13	E7
IE14	E7
IE15	E7
IE16	E7
IE17	E7
IE18	E7
IE19	E7
IE20	E8
IE21	E7
IE22	E8
IE23	E8
IE24	E7
IE25	E8
IE26	E8
IE27	D7
IE28	E8
IE29	E7
IE30	E7
IE32	D7
IE33	D7
IE34	D7
IE35	E8
IE36	E8
IE37	E8
IE38	E8
IE39	E8
IE40	E7
IE42	E8
IE43	E6
IE44	D6
IE45	E7
IE46	D7
IE47	E8
IE48	E8
IE49	E8
IE50	E7
IF01	E9
IF02	F9
IF03	F9
IF04	F9
IF05	E5
IF06	E3
IF08	E3
IF09	E4
IF10	E4
IF12	E4
IF13	E3
IF14	E4
IF16	F9
IF17	F9
IF18	F10
IG00	E3
IG01	E5
IG02	E5
IG03	E5
IG04	E5
IG05	E4
IG06	E4
IG07	E4
IG08	F3
IG09	E4
IG10	E3
IG11	E4
IG12	E5
IG13	E3
IG14	E7
IG15	E7
IG16	E6
IG17	E6
IG18	F8
IG19	F7
IG20	E8
IG21	E7
IG22	E4
IG23	E4
IG24	E6
IG25	E5
IG26	F7
IG27	F6
IG28	E4
IG29	E6
IG30	E4
IG31	E6
IG32	E5
IG33	E7
IG34	F4
IG35	E4
IG36	E4
IG37	F4
IG38	E6
IG39	E6
IG40	E8
IG41	E6
IG42	F8
IG43	E6
IG44	E6
IG45	E6
IG46	F8
IG47	E8
IG48	F7
IG49	F7
IG50	F6
IG51	E6
IG52	E7
IG53	E4
IG54	E4
IG55	E4
IG56	E4
IG57	E6
IG58	E6
IG59	E5
IG60	E3
IG61	E5
IG62	E5
IG63	E5
IG64	E5
IG65	E6
IG66	E5
IG67	E6
IG68	F6
IG69	E4
IG70	E8
IG71	F6
IG72	E6
IG73	E8
IG74	E6
IG75	F8
IG76	F8
IG77	E8
IG78	F8
IG79	E8
IG80	F8
IG82	F8
IG83	F8
IJ01	A4
IJ02	A4
IJ03	A4
IJ04	A4
IJ05	A5
IJ06	A4
IJ07	A3
IJ08	A5
IJ09	A4
IJ10	A4
IJ11	A4
IJ12	A3
IJ13	A4
IJ14	A4
IJ15	A8
IK00	B1
IK01	B1
IK02	B1
IK03	B1
IK04	B1
IK05	B1
IK16	B1
IK17	C1
IK18	D1
IL01	C4
IL02	C5
IL03	C5
IL05	D4
IL06	D5
IL07	D4
IL09	C4
IL10	B4
IL11	C5
IL12	C5
IL13	C5
IL14	C5
IL15	C4
IL17	C5
IL18	C5
IL19	C5
IL20	C5
IL21	C5
IL22	C5
IL23	B4
IL24	C5
IL25	C5
IL26	C5
IL27	C5
IL28	C5
IL29	C5
IL30	C5
IL31	C5
IL32	C5
IL33	E4
IL34	D4
IL35	D4
IL36	D4
IL37	E4
IL38	C5
IL39	C5
IL40	C4
IM00	D5
IM01	D5
IM02	D5
IM03	D6
IM04	D5
IM05	D5
IM06	D6
IM07	D5
IM08	D4
IM09	E5
IM10	D5
IM11	D5
IM12	D4
IM13	D4
IM15	D5
IM16	D5
IM17	D5
IM18	D5
IM20	D5
IN01	A8
IN02	A8
IN03	A8
IN04	A9
IN05	A9
IN06	A10
IN07	A10
IN08	A10
IN09	B9
IN10	B9
IN11	B10
IN12	B10
IN13	B10
IN14	B10
IN15	B10
IN16	B8
IN17	B8
IN18	B8
IN19	B8
IN20	A10



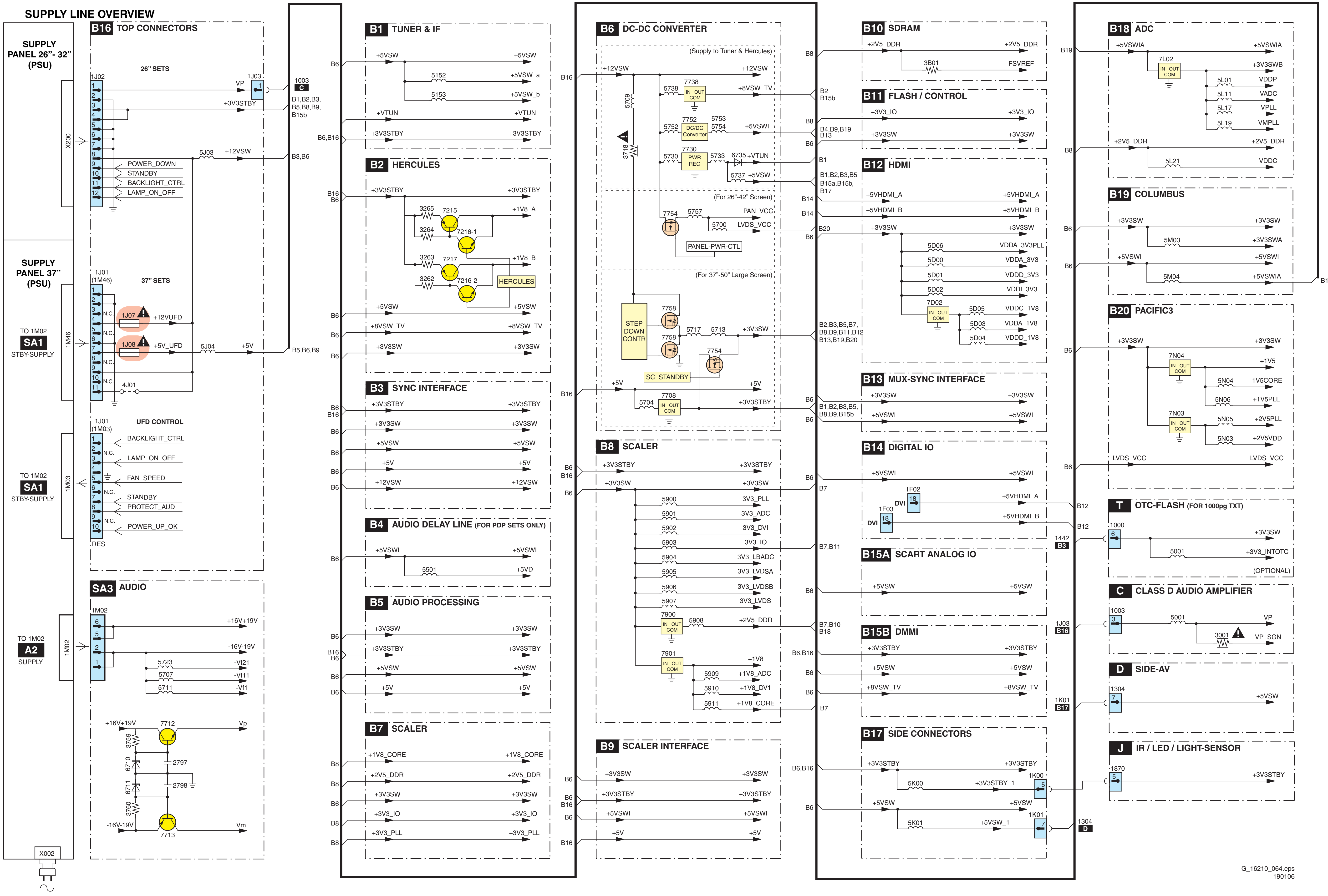
I^{2}C Overview


I²C
B2 HERCULES
B8 SCALER
B1 TUNER & IF
B19 COLUMBUS
B3 SYNC INTERFACE
T OTC-FLASH
B18 ADC
B7 SCALER
B15B DMMI
B11 FLASH / CONTROL
B12 HDMI
B14 DIGITAL I/O
B20 PACIFIC3
B10 SDRAM
B9 SCALER INTERFACE
7217
TDA15021H
HERCULES
SET
PROCESSOR
109
108
104 NVM_WP_HERC
112 SWHW_I2C_SDA
113 SWHW_I2C_SCL
ERR 6
ERR 17
+3V3STBY
3233
3232
7221
7220
3298
3297
+3V3SW
SDA
SCL
3249
7207
M24C16
EEPROM
NVM
ERR 9
5
6
7
1G03
1
2
Reserved
for DMMI
3902
3901
N1
N2
7801
GM1501H
SCALER
ERR 4
M1
M2
P3
P4
AF5 NVM_WP_SCALER
ADDRESS
DATA
OCMADDR
OCMDATA
AF7
AD6
3838
3837
+3V3_IO
JTAG_TDI_SDA
JTAG_CLK_SCL
1802
JTAG
I2C
FSADDR
FSDATA
3102
3101
1102
UV1318S
TUNER
ERR 10
3152
3151
1151
SERVICE
CONNECTOR
COMPAIR
3170
3171
3172
3173
UART_TX
UART_RX
1177
SERVICE
CONNECTOR
UART
3818
3817
SDA_IO
SCL_IO
7C01
M24C32
EEPROM
ERR 8
7C03
M29W400D
ERROM
7B01
K4D263238F
SDRAM
ERR 14
3M14
3M15
A15
B15
7M00
T6TU5XBG
COLUMBUS
CTRL
ERR 11
1442
1000
14
13
3L19
3L18
38
37
7L01
P3563M
ADC
ERR 7
3016
3015
86
85
7001
SAA5801H/
TV
CONTROL
ERR 15
3D05
3D06
75
74
7D03
SII9993CT
HDMI
PANELLINK
RECEIVER
ERR 13
K16
K15
J16
J15
+5VHDMI_A
+5VHDMI_B
3D09
3D01
3D10
3D03
7D01
M24C02
EEPROM
256x8
7D00
M24C02
EEPROM
256x8
1F02
1F03
DOC_SDAA
DOC_SCLA
DOC_SDAB
DOC_SCLB
2x HDMI
CONNECTOR
4N30
4N31
SDA_PF3
SCL_PF3
198
200
7N00
T6TF4AFG
PACIFIC3
MISC
ERR 16
202 SSDA
204 SSCL
1N03
FOR PACIFIC3
PROGRAMMING
3N21
3N20
1N04
FOR
DEVELOPMENT
USE ONLY
7A00
PCA9515ADP
RES
4A01
4A00
FOR
PDP ONLY
SDA_DMA_BUS1_DISP
SDA_DMA_BUS1_DISP
1N17
(1G50)
31
30
TO
DISPLAY
(OPTIONAL)

G_16210_063.eps
190106

Supply Voltage Overview

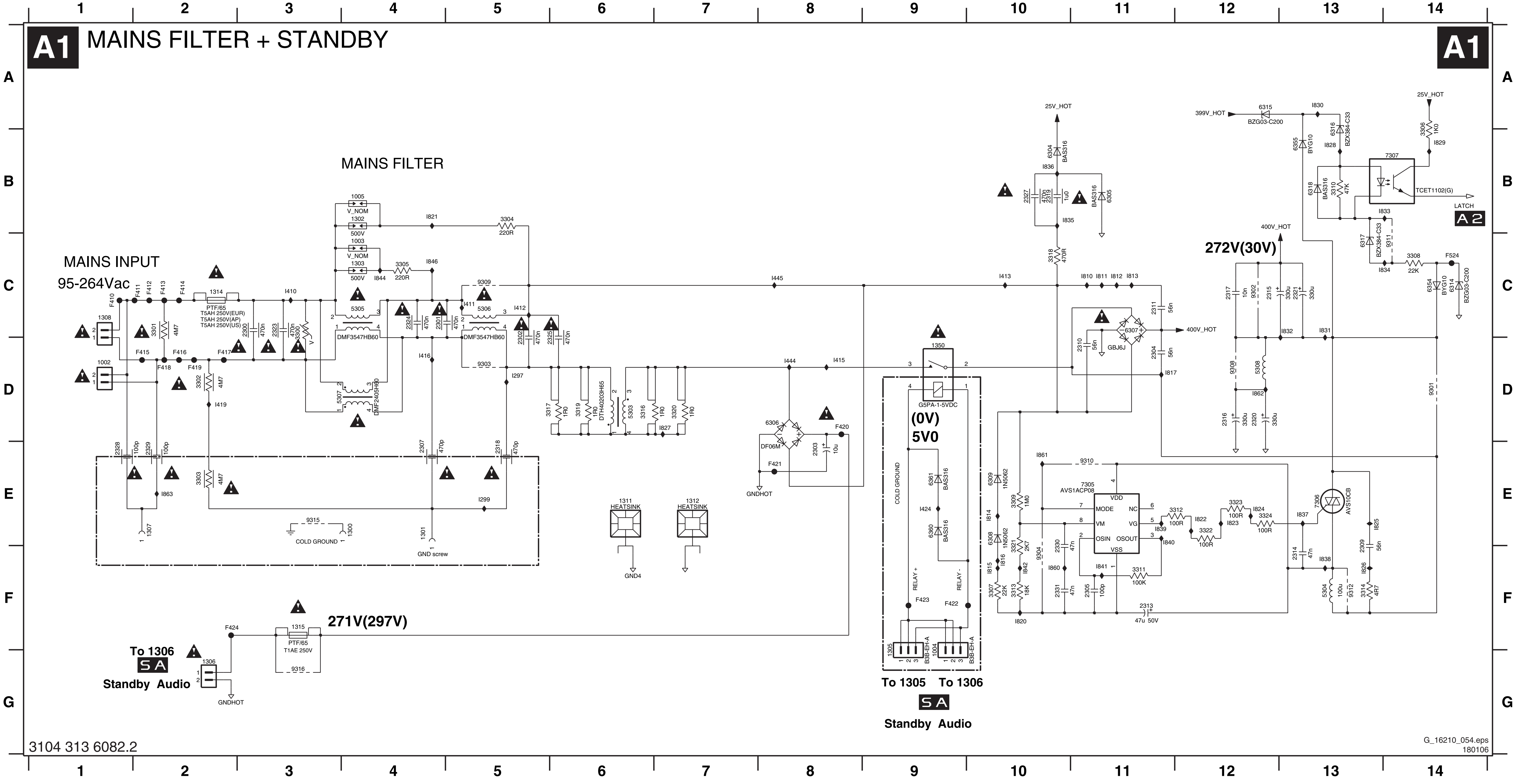
SUPPLY LINE OVERVIEW


SUPPLY PANEL 26"- 32" (PSU)
X200
SUPPLY PANEL 37" (PSU)
TO 1M02 SA1 STBY-SUPPLY
1M46
TO 1M02 SA1 STBY-SUPPLY
1M03
TO 1M02 A2 SUPPLY
1M02
X002
B16 TOP CONNECTORS
26" SETS
1J02
1J03
VP
+3V3STBY
5J03
+12VSW
POWER_DOWN
STANDBY
BACKLIGHT_CTRL
LAMP_ON_OFF
1003 C
B1,B2,B3, B5,B8,B9, B15b
B3,B6
1J01 (1M46)
37" SETS
N.C.
1J07
+12VUFD
1J08
+5V_UFD
5J04
+5V
4J01
B5,B6,B9
1J01 (1M03)
UFD CONTROL
BACKLIGHT_CTRL
LAMP_ON_OFF
FAN_SPEED
STANDBY
PROTECT_AUD
POWER_UP_OK
RES
SA3 AUDIO
1M02
+16V+19V
-16V-19V
5723
-Vf21
5707
-Vf11
5711
-Vf1
7712
Vp
3759
6710
2797
6711
2798
3760
7713
Vm
B1 TUNER & IF
+5VSW
5152
+5VSW_a
5153
+5VSW_b
+VTUN
+3V3STBY
B6,B16
B2 HERCULES
3265
7215
+1V8_A
3264
7216-1
3263
7217
+1V8_B
3262
7216-2
HERCULES
+8VSW_TV
+3V3SW
B3 SYNC INTERFACE
+5V
+12VSW
B4 AUDIO DELAY LINE (FOR PDP SETS ONLY)
+5VSWI
5501
+5VD
B5 AUDIO PROCESSING
B7 SCALER
+1V8_CORE
+2V5_DDR
+3V3_IO
+3V3_PLL
B6 DC-DC CONVERTER
(Supply to Tuner & Hercules)
5709
5738
7738
3718
7752
5753
5752
DC/DC Converter
5754
7730
5730
PWR REG
5733
6735
5737
(For 26"-42" Screen)
7754
5757
PAN_VCC
5700
LVDS_VCC
PANEL-PWR-CTL
(For 37"-50" Large Screen)
STEP DOWN CONTR
7758
5717
5713
SC_STANDBY
5704
7708
B8 SCALER
5900 3V3_PLL
5901 3V3_ADC
5902 3V3_DVI
5903 3V3_IO
5904 3V3_LBADC
5905 3V3_LVDSA
5906 3V3_LVDSB
5907 3V3_LVDS
7900
5908
7901
+1V8
5909 +1V8_ADC
5910 +1V8_DV1
5911 +1V8_CORE
B9 SCALER INTERFACE
B10 SDRAM
3B01
FSVREF
B11 FLASH / CONTROL
+3V3_IO
B12 HDMI
+5VHDMI_A
+5VHDMI_B
5D06 VDDA_3V3PLL
5D00 VDDA_3V3
5D01 VDDD_3V3
5D02 VDDI_3V3
7D02
5D05 VDDC_1V8
5D03 VDDA_1V8
5D04 VDDD_1V8
B13 MUX-SYNC INTERFACE
B14 DIGITAL IO
1F02
DVI
1F03
B15A SCART ANALOG IO
B15B DMMI
B17 SIDE CONNECTORS
5K00
+3V3STBY_1
1K00
5K01
+5VSW_1
1K01
1304 D
B18 ADC
+5VSWIA
7L02
+3V3SWB
5L01 VDDP
5L11 VADC
5L17 VPLL
5L19 VMPLL
5L21 VDDC
B19 COLUMBUS
5M03
+3V3SWA
5M04
B20 PACIFIC3
7N04
+1V5
5N04 1V5CORE
5N06 +1V5PLL
7N03
5N05 +2V5PLL
5N03 +2V5VDD
LVDS_VCC
T OTC-FLASH (FOR 1000pg TXT)
1000
5001
+3V3_INTOTC
(OPTIONAL)
1442 B3
C CLASS D AUDIO AMPLIFIER
1003
VP
3001
VP_SGN
1J03 B16
D SIDE-AV
1304
1K01 B17
J IR / LED / LIGHT-SENSOR
1870
G_16210_064.eps
190106

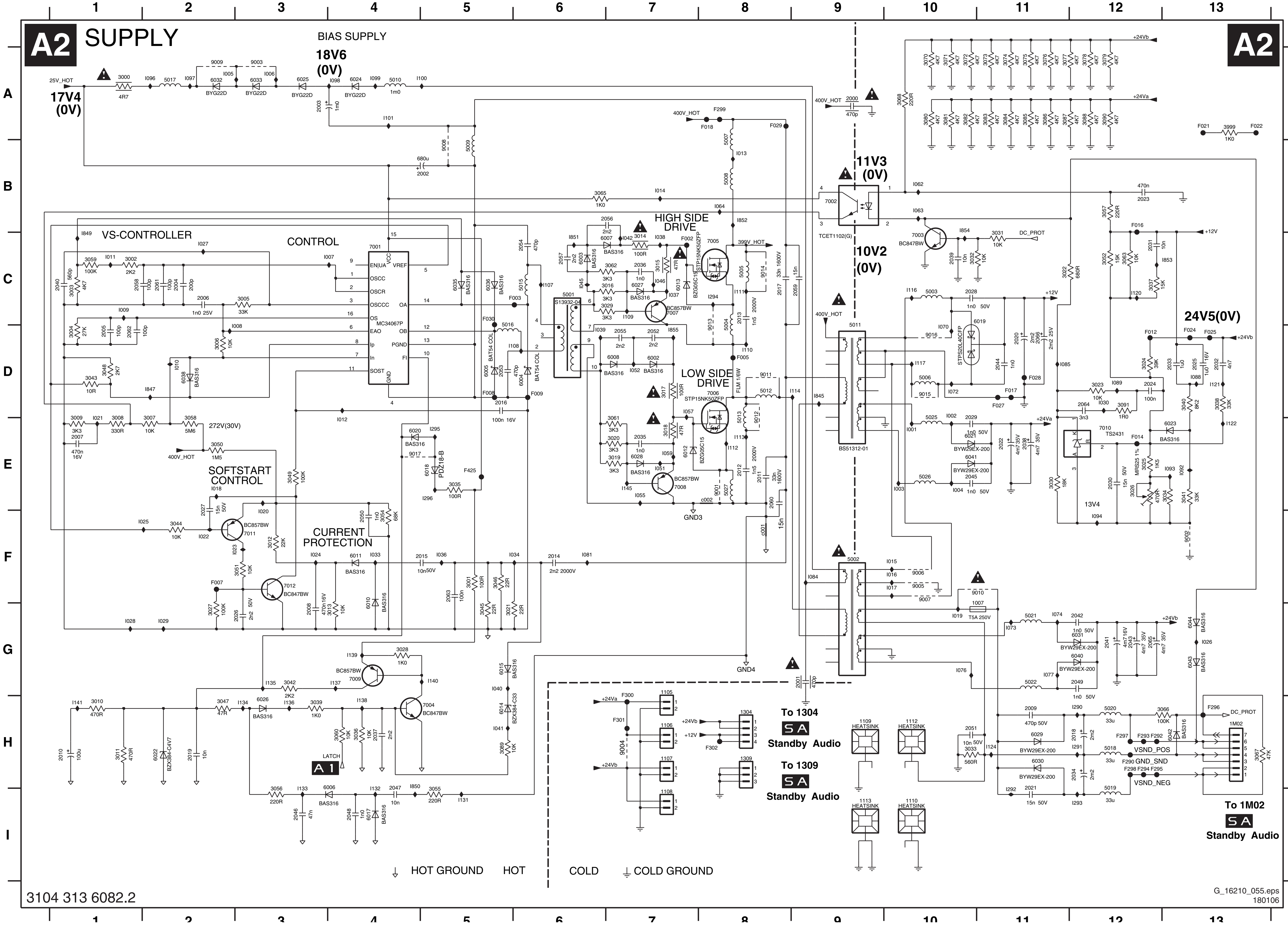
7. Circuit Diagrams and PWB Layouts

PSU (37”): Mains Filter & Standby

1002 D1
1003 C4
1004 G9
1005 B4
1300 E4
1301 E4
1302 B4
1303 C4
1305 G9
1306 G2
1307 E2
1308 C1
1311 E6
1312 E7
1314 C2
1315 F3
1350 D9
2300 C3
2301 C4
2302 D5
2303 E8
2304 D11
2305 F11
2307 E4
2309 F13
2310 D11
2311 C11
2313 F11
2314 F13
2315 C12
2316 D12
2317 C12
2318 E5
2319 B10
2320 D12
2321 C13
2323 C3
2324 C4
2325 D6
2327 B10
2328 E1
2329 E2
2330 F10
2331 F10
3300 C3
3301 C2
3302 D2
3303 E2
3304 B5
3305 C4
3306 B14
3307 F10
3308 C14
3309 E10
3310 B13
3311 F11
3312 E12
3313 F10
3314 F13
3316 D6
3317 D6
3318 C10
3319 D6
3320 D7
3321 F10
3322 E12
3323 E12
3324 E12
5303 D6
5304 F13
5305 C4
5306 C5
5307 D3
5308 D12
6304 B10
6305 B11
6306 D8
6307 C11
6308 E10
6309 E10
6314 C14
6315 A12
6316 B13
6317 C13
6318 B13
6354 C14
6355 B13
6360 E9
6361 E9
7305 E11
7306 E13
7307 B14
9301 D14
9302 C12
9303 D5
9304 F10
9308 D12
9309 C5
9310 E11
9311 C14
9312 F13
9315 E3
9316 G3
F410 C1
F411 C2
F412 C2
F413 C2
F414 C2
F415 D2
F416 D2
F417 D2
F418 D2
F419 D2
F420 D8
F421 E8
F422 F9
F423 F9
F424 F2
F524 C14
I297 D5
I299 E5
I410 C3
I411 C5
I412 C5
I413 C10
I415 D8
I416 D4
I419 D2
I424 E9
I444 D8
I445 C8
I810 C11
I811 C11
I812 C11
I813 C11
I814 E10
I815 F10
I816 F10
I817 D11
I820 F10
I821 B4
I822 E12
I823 E12
I824 E12
I825 E13
I826 F13
I827 D7
I828 B13
I829 B14
I830 A13
I831 C13
I832 C13
I833 B14
I834 C14
I835 B10
I836 B10
I837 E13
I838 F13
I839 E11
I840 E11
I841 F11
I842 F10
I844 C4
I846 C4
I860 F10
I861 E10
I862 D12
I863 E2


A1
MAINS FILTER + STANDBY
A1
MAINS FILTER
MAINS INPUT
95-264Vac
1308
1002
1314
PTF/65
T5AH 250V(EUR)
T5AH 250V(AP)
T5AH 250V(US)
1005 V_NOM
1302 500V
1003 V_NOM
1303 500V
3304 220R
3305 220R
5305 DMF3547HB60
5306 DMF3547HB60
5307 DMF2405H60
9309
9303
5303 DTH40203H65
3317 1R0
3319 1R0
3316 1R0
3320 1R0
6306 DF06M
2303 10u
F420
F421
GNDHOT
1311 HEATSINK
1312 HEATSINK
GND4
9315
COLD GROUND
1307
1300
1301
GND screw
1350 G5PA-1-5VDC
(0V)
5V0
COLD GROUND
6361 BAS316
6360 BAS316
RELAY +
RELAY -
F423
F422
1305 B3B-EH-A
1004 B3B-EH-A
To 1305
To 1306
SA
Standby Audio
271V(297V)
1315 PTF/65 T1AE 250V
9316
F424
To 1306
SA
Standby Audio
1306
GNDHOT
25V_HOT
6304 BAS316
6305 BAS316
2327 470p
2319 1u0
3318 470R
399V_HOT
6315 BZG03-C200
6355 BYG10
6316 BZX384-C33
3306 1K0
7307
TCET1102(G)
LATCH
A2
6318 BAS316
3310 47K
6317 BZX384-C33
3308 22K
F524
6354 BYG10
6314 BZG03-C200
400V_HOT
272V(30V)
6307 GBJ6J
2311 56n
2310 56n
2304 56n
400V_HOT
2317 10n
9302
2315 330u
2321 330u
5308
9308
2316 330u
2320 330u
9301
7305 AVS1ACP08
VDD
MODE
NC
VM
VG
OSIN
OSOUT
VSS
9310
3312 100R
3322 100R
3323 100R
3324 100R
3311 100K
2313 47u 50V
7306 AVS10CB
2314 47n
2309 56n
5304 100u
9312
3314 4R7
6309 1N5062
6308 1N5062
3309 1M0
3321 2K7
3307 22K
3313 18K
2330 47n
2331 47n
2305 100p
9304
3104 313 6082.2
G_16210_054.eps
180106

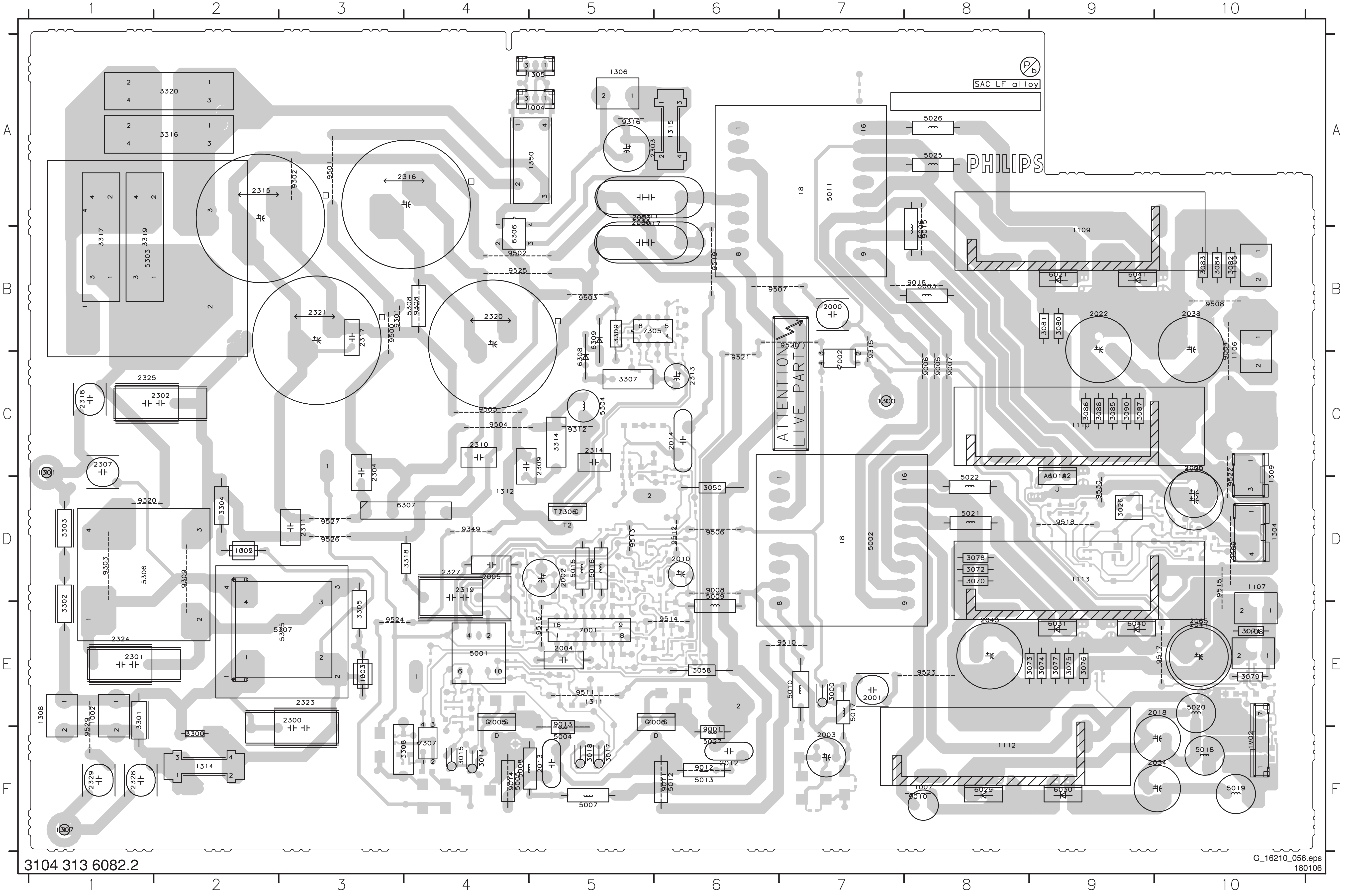
PSU (37"): Supply


A2
SUPPLY
BIAS SUPPLY
18V6
(0V)
17V4
(0V)
25V_HOT
VS-CONTROLLER
CONTROL
MC34067P
HIGH SIDE
DRIVE
LOW SIDE
DRIVE
STP15NK50ZFP
BC857BW
SOFTSTART
CONTROL
CURRENT
PROTECTION
400V_HOT
272V(30V)
TCET1102(G)
11V3
(0V)
10V2
(0V)
24V5(0V)
13V4
BS51312-01
DC_PROT
+24Va
+24Vb
+12V
VSND_POS
GND_SND
VSND_NEG
LATCH
A1
To 1304
SA
Standby Audio
To 1309
SA
Standby Audio
To 1M02
SA
Standby Audio
HEATSINK
GND3
GND4
HOT GROUND
HOT
COLD
COLD GROUND
3104 313 6082.2
G_16210_055.eps
180106
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I

1007	G11
1105	G7
1106	H7
1107	H7
1108	I7
1109	H9
1110	I10
1112	H10
1113	I9
1304	H8
1309	H8
1M02	H13
2000	A9
2001	G9
2002	B5
2003	A3
2004	C2
2005	D1
2006	C2
2007	E1
2008	G3
2009	H11
2010	H1
2011	E8
2012	E8
2013	C8
2014	F6
2015	F5
2016	D5
2017	C8
2018	H12
2019	H2
2020	D11
2021	I11
2022	E11
2023	B12
2024	D12
2025	D13
2026	G3
2027	E2
2028	C10
2029	E10
2030	E12
2031	C12
2032	D13
2033	D13
2034	H12
2035	E7
2036	C7
2037	H4
2038	E11
2039	C10
2040	C1
2041	G12
2042	G12
2043	G12
2044	D11
2045	E10
2046	I3
2047	I4
2048	I4
2049	G12
2050	F4
2051	H10
2052	D7
2053	D5
2054	C6
2055	D7
2056	B7
2057	C6
2058	C1
2059	C9
2060	E8
2061	C2
2062	D1
2063	F5
2064	D12
2065	G12
2066	D11
3000	A1
3001	F5
3002	C1
3003	C1
3004	D1
3005	C3
3006	D2
3007	E2
3008	E1
3009	E1
3010	H1
3011	H1
3012	F3
3013	G4
3014	C7
3015	C7
3016	C7
3017	D7
3018	E7
3019	E7
3020	E7
3021	G5
3022	C11
3023	D12
3024	D12
3025	E12
3026	E12
3027	G2
3028	G4
3029	C7
3030	E11
3031	C11
3032	C10
3033	H10
3034	E13
3035	E5
3036	H4
3037	C12
3038	D13
3039	H3
3040	D13
3041	E13
3042	G3
3043	D1
3044	F2
3045	G5
3046	F5
3047	H2
3048	D1
3049	E3
3050	E2
3051	F3
3052	C12
3054	F4
3055	I5
3056	I3
3057	B12
3058	E2
3059	C1
3060	H4
3061	E7
3062	C7
3063	C12
3065	B6
3066	H13
3067	H13
3068	A10
3070	A10
3071	A10
3072	A10
3073	A11
3074	A11
3075	A11
3076	A11
3077	A11
3078	A12
3079	A12
3080	A10
3081	A10
3082	A10
3083	A11
3084	A11
3085	A11
3086	A11
3087	A11
3088	A12
3089	H5
3090	A12
3091	D12
3999	A13
5001	C6
5002	F9
5003	C10
5004	C8
5005	C8
5006	D10
5007	A8
5008	B8
5009	B5
5010	A4
5011	D9
5012	D8
5013	D8
5015	C6
5016	D5
5017	A2
5018	H12
5019	I12
5020	H12
5021	G11
5022	G11
5025	E10
5026	E10
5027	E8
6002	D7
6003	C6
6004	D6
6005	D5
6006	I4
6007	C7
6008	D7
6010	G4
6011	F4
6012	E7
6013	C7
6014	H5
6015	G5
6017	I4
6018	E5
6019	C10
6020	E4
6021	E10
6022	H2
6023	E13
6024	A4
6025	A3
6026	H3
6027	C7
6028	E7
6029	H11
6030	H11
6031	G12
6032	A2
6033	A3
6035	C5
6036	C5
6038	D2
6040	G12
6041	E10

Layout PSU (37”) (Top Side)

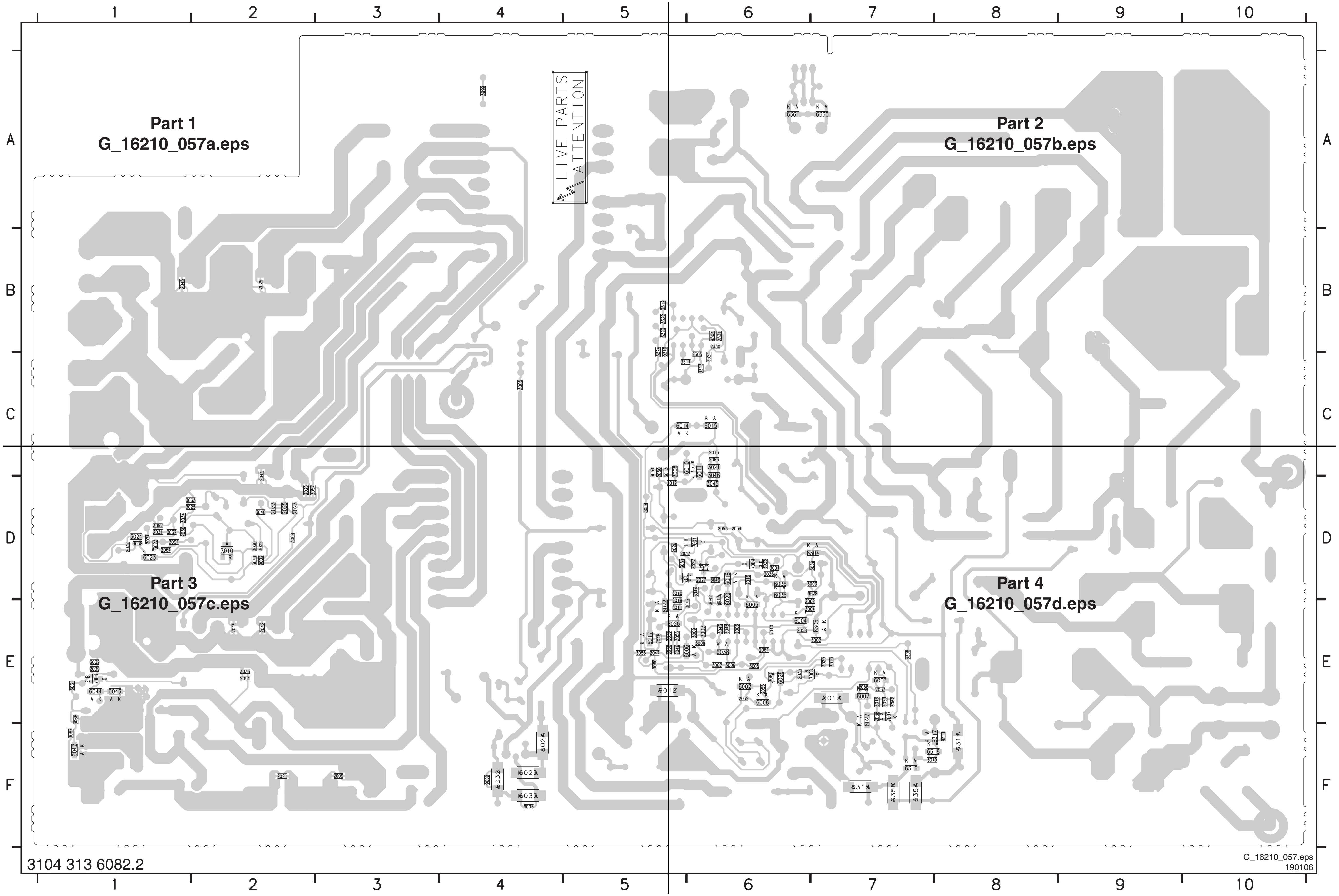
1002	E1
1003	E3
1004	A5
1005	D2
1007	F8
1105	B10
1106	B10
1107	D10
1108	E10
1109	B8
1110	C8
1112	F8
1113	E8
1300	C7
1301	C1
1302	D2
1303	E3
1304	D10
1305	A5
1306	A5
1307	F1
1308	E1
1309	C10
1311	E4
1312	D3
1314	F2
1315	A6
1350	A5
1M02	F10
2000	B7
2001	E7
2002	D5
2003	F7
2004	E5
2005	D4
2010	D6
2011	A5
2012	F6
2013	F5
2014	C6
2017	A5
2018	E10
2020	D10
2022	B9
2034	F10
2038	B10
2041	E10
2043	E8
2059	A5
2060	A5
2065	E10
2066	C10
2300	E3
2301	E2
2302	C2
2303	A5
2304	C3
2307	C1
2309	C4
2310	C4
2311	D2
2313	C6
2314	C5
2315	A2
2316	A3
2317	B3
2318	C1
2319	D4
2320	B5
2321	B3
2323	E3
2324	E2
2325	C2
2327	E4
2328	F1
2329	F1
3000	E7
3014	F4
3015	F4
3017	F5
3018	F5
3026	D9
3050	D6
3058	E6
3070	D8
3071	E10
3072	D8
3073	E8
3074	E9
3075	E9
3076	E9
3077	E9
3078	D8
3079	E10
3080	B9
3081	B9
3082	B10
3083	B10
3084	B10
3085	C9
3086	C9
3087	C9
3088	C9
3090	C9
3300	E2
3301	E2
3302	E1
3303	D1
3304	D2
3305	E3
3307	C5
3308	F3
3309	B5
3314	C5
3316	A1
3317	B1
3318	D4
3319	B2
3320	A1
5001	E4
5002	D8
5003	B8
5004	E5
5005	F4
5006	B7
5007	F5
5008	F4
5009	E6
5010	E7
5011	A7
5012	F5
5013	F6
5015	D5
5016	D5
5017	E7
5018	F10
5019	F10
5020	E10
5021	D8
5022	C8
5025	A8
5026	A8
5027	E6
5303	A1
5304	C5
5305	E2
5306	D1
5307	D3
5308	B4
6019	D9
6021	B9
6029	F8
6030	F9
6031	E9
6040	E9
6041	B9
6306	B4
6307	D3
6308	B5
6309	B5
7001	E5
7002	B7
7005	F4
7006	F5
7305	B5
7306	D5
7307	F4
9001	F6
9004	C10
9005	C8
9006	C8
9007	C8
9008	D6
9010	F7
9011	F6
9012	F6
9013	F5
9014	F4
9015	B8
9016	B8
9301	B4
9302	A3
9303	D1
9308	B4
9309	D2
9312	C5
9315	B7
9316	A5
9320	D2
9349	D4
9500	B3
9501	A3
9502	B5
9503	B5
9504	C4
9505	C4
9506	D6
9507	B6
9508	B10
9509	D10
9510	E7
9511	E5
9512	D6
9513	D5
9514	E6
9515	D10
9516	E5
9517	E10
9518	D9
9519	B6
9520	B6
9521	B6
9522	C10
9523	E8
9524	E3
9525	B4
9526	D3
9527	D3
9529	F1
9530	D9


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
SAC LF alloy
PHILIPS
ATTENTION
LIVE PART
3320
3316
3317
3319
5303
2315
2316
2321
2320
2317
2325
2302
2318
2307
1301
9320
3303
3302
5306
5307
2324
2301
1308
2323
2300
3300
1314
2329
2328
1307
1305
1004
1350
1306
1315
2303
6306
9502
9525
9503
7305
3309
6309
6308
3307
2313
5304
9312
3314
2314
2310
2309
2304
1312
6307
T7306
9527
9526
9349
3318
2327
2319
2005
2002
5015
5016
2010
2014
3050
9506
7001
2004
3058
5001
9524
3305
1003
9511
1311
7005
9013
5004
7006
9001
5027
2012
9012
5013
5007
5012
5008
3015
3014
3018
3017
2013
7307
3308
5011
5026
5025
5015
9016
5003
9507
2000
9521
9520
7002
1300
5002
5022
5021
5010
3000
5017
2001
2003
9510
9523
1109
6021
6041
3083
3084
3082
1106
3081
3080
2022
2038
9508
1110
3086
3088
3085
3090
3087
2065
1309
3026
9518
1304
1113
3078
3072
3070
6031
6040
2043
3073
3074
3077
3075
3076
1107
3079
1112
2018
5020
2034
5018
1M02
5019
6029
6030
1007
2010
3104 313 6082.2

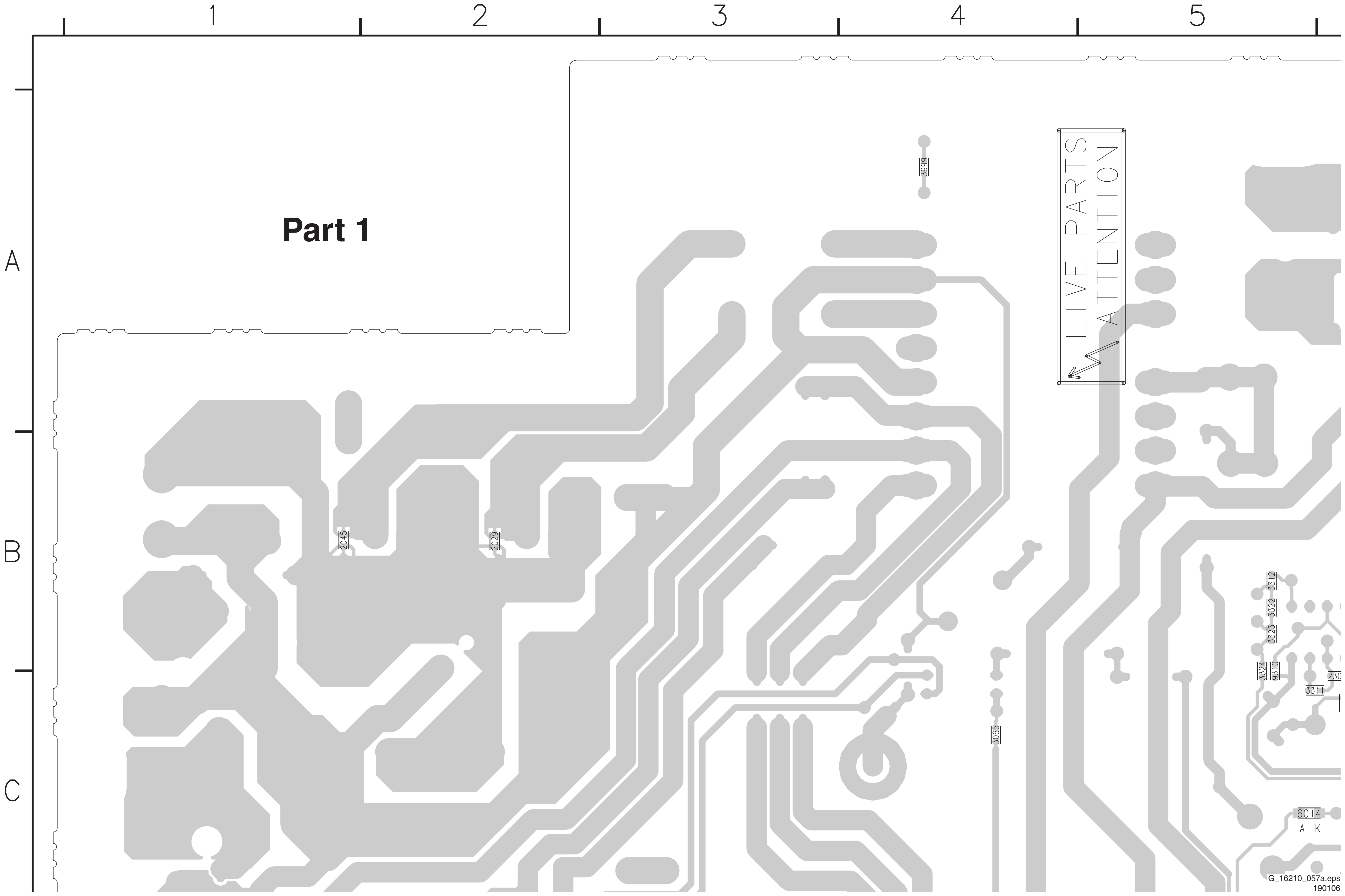
G_16210_056.eps
180106

Layout PSU (37”) (Overview Bottom Side)

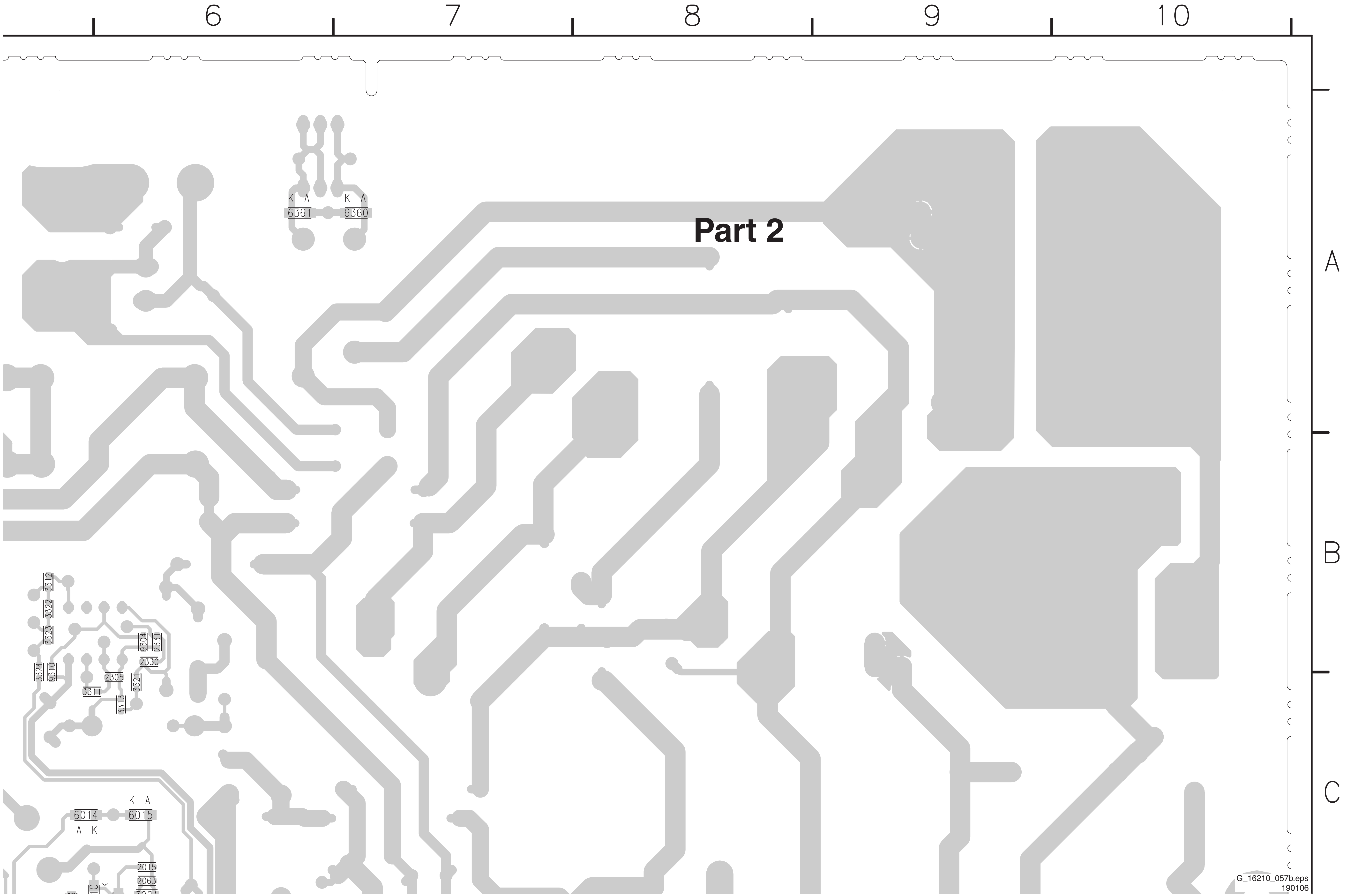
2006	E6
2007	E6
2008	C5
2009	F3
2015	C6
2016	D6
2019	E5
2021	F2
2023	D2
2024	D1
2025	D2
2026	D5
2027	D6
2028	D2
2029	B2
2030	D1
2031	D1
2032	D1
2033	D2
2035	E6
2036	E7
2037	D5
2039	E1
2040	E6
2042	E2
2044	D2
2045	B1
2046	E5
2047	E5
2048	E5
2049	E2
2050	C5
2051	E2
2052	E6
2053	D6
2054	D6
2055	E6
2056	E7
2057	E7
2058	E6
2061	E6
2062	E6
2063	C6
2064	D1
2305	C6
2330	B6
2331	B6
3001	D6
3002	E7
3003	D7
3004	E6
3005	E6
3006	E6
3007	E6
3008	E6
3009	E6
3010	D5
3011	E5
3012	D5
3013	C5
3016	E7
3019	E7
3020	E7
3021	C6
3022	D2
3023	D1
3024	D1
3025	D1
3027	D6
3028	D6
3029	E7
3030	D2
3031	E1
3032	E1
3033	E2
3034	D1
3035	D6
3036	E5
3037	D1
3038	D1
3039	E5
3040	D2
3041	D2
3042	E6
3043	E6
3044	D6
3045	D6
3046	C6
3047	E6
3048	E6
3049	D6
3051	D5
3052	D1
3054	C5
3055	E5
3056	E5
3057	D2
3059	D7
3060	E5
3061	E6
3062	E7
3063	D1
3065	C4
3066	E1
3067	F1
3068	D2
3089	D5
3091	D1
3306	E7
3310	F7
3311	C5
3312	B5
3313	C6
3321	C6
3322	B5
3323	B5
3324	B5
3999	A4
6002	E6
6003	E7
6004	E6
6005	E6
6006	E5
6007	E7
6008	E6
6010	C6
6011	C6
6012	E5
6013	E7
6014	C5
6015	C6
6017	E5
6018	D6
6020	D6
6022	E5
6023	D1
6024	F4
6025	F4
6026	E5
6027	E7
6028	E6
6032	F4
6033	F4
6035	E6
6036	D6
6038	E6
6042	F1
6043	E1
6044	E1
6304	D7
6305	E7
6314	F8
6315	F7
6316	F7
6317	F8
6318	F7
6354	F7
6355	F7
6360	A7
6361	A6
7003	E1
7004	D6
7007	E7
7008	E7
7009	D6
7010	D2
7011	D5
7012	D6
9002	D2
9003	F4
9009	F4
9017	E6
9304	B6
9310	B5
9311	F8
9528	D7


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
Part 1
G_16210_057a.eps
Part 2
G_16210_057b.eps
Part 3
G_16210_057c.eps
Part 4
G_16210_057d.eps
LIVE PARTS
ATTENTION
3104 313 6082.2
G_16210_057.eps
190106

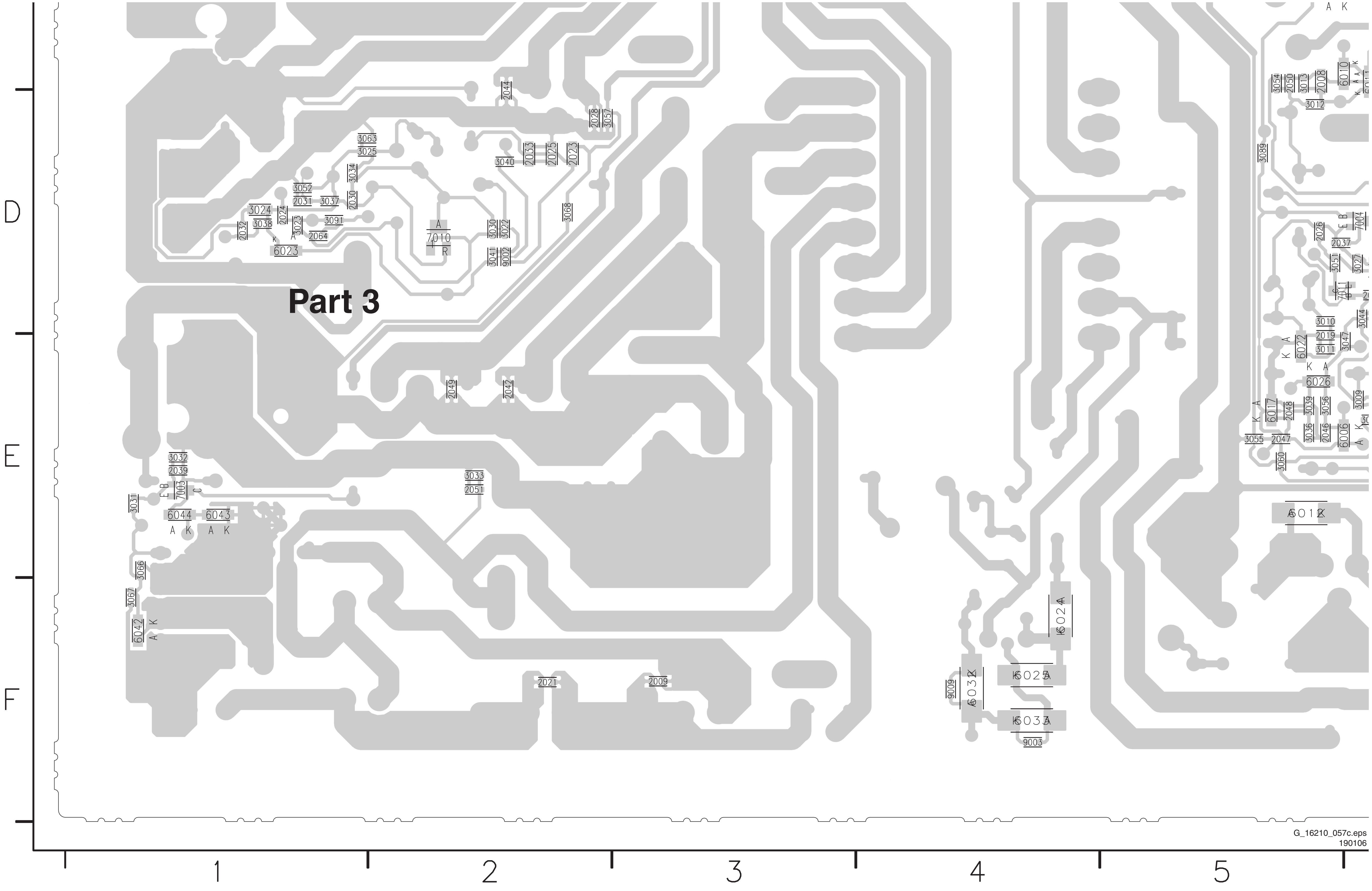
Layout PSU (37”) (Part 1 Bottom Side)


1
2
3
4
5
A
B
C
Part 1
3999
LIVE PARTS
ATTENTION
2045
2029
3312
3322
3323
3324
9310
3311
230
3065
6014
A K
G_16210_057a.eps
190106

Layout PSU (37”) (Part 2 Bottom Side)

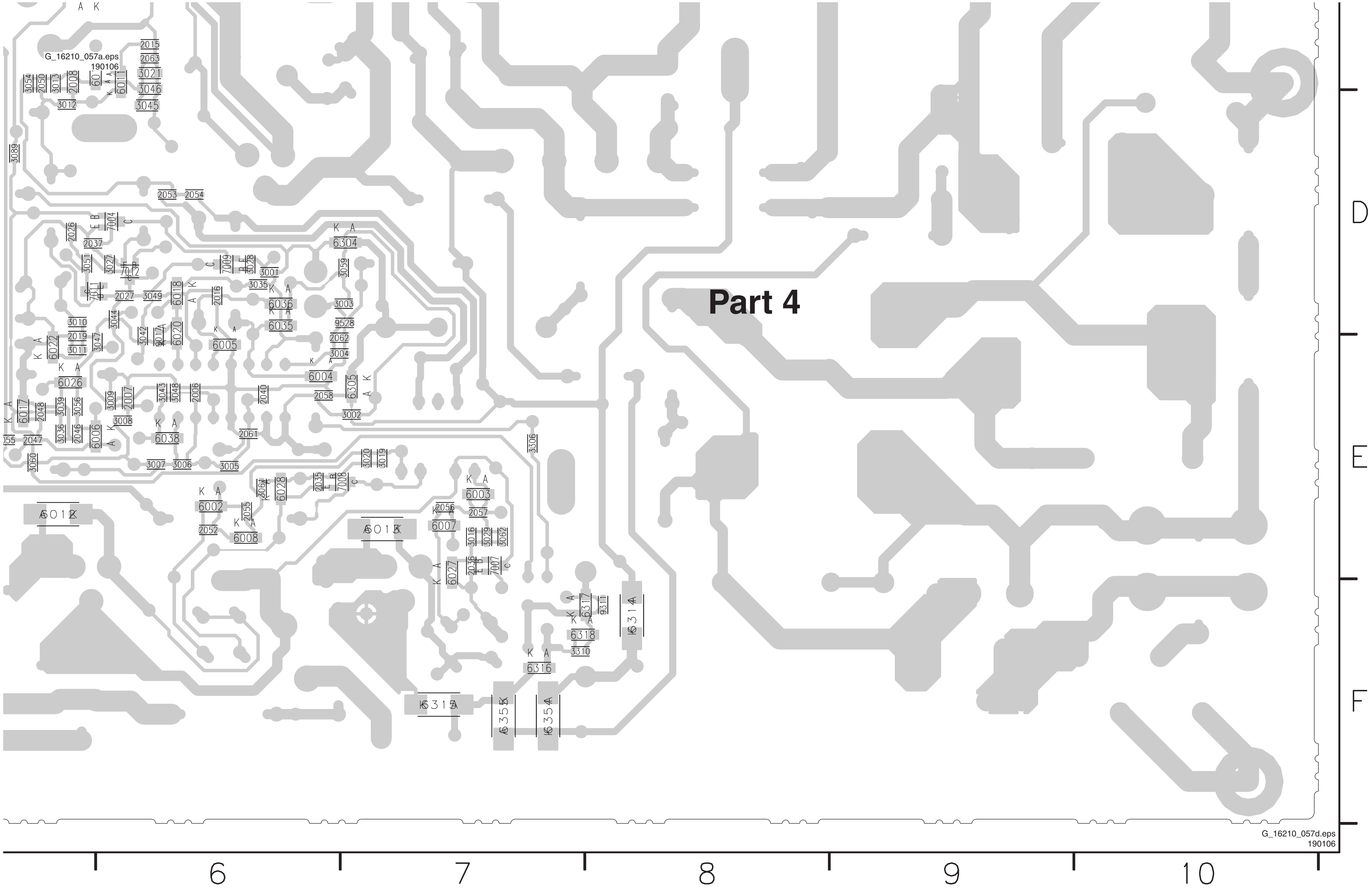

6
7
8
9
10
A
B
C
Part 2
K A
6361
K A
6360
3312
3322
3323
3324
9310
9304
2331
2330
2305
3311
3321
3313
K A
6014
6015
A K
2015
2063
G_16210_057b.eps
190106

Layout PSU (37”) (Part 3 Bottom Side)

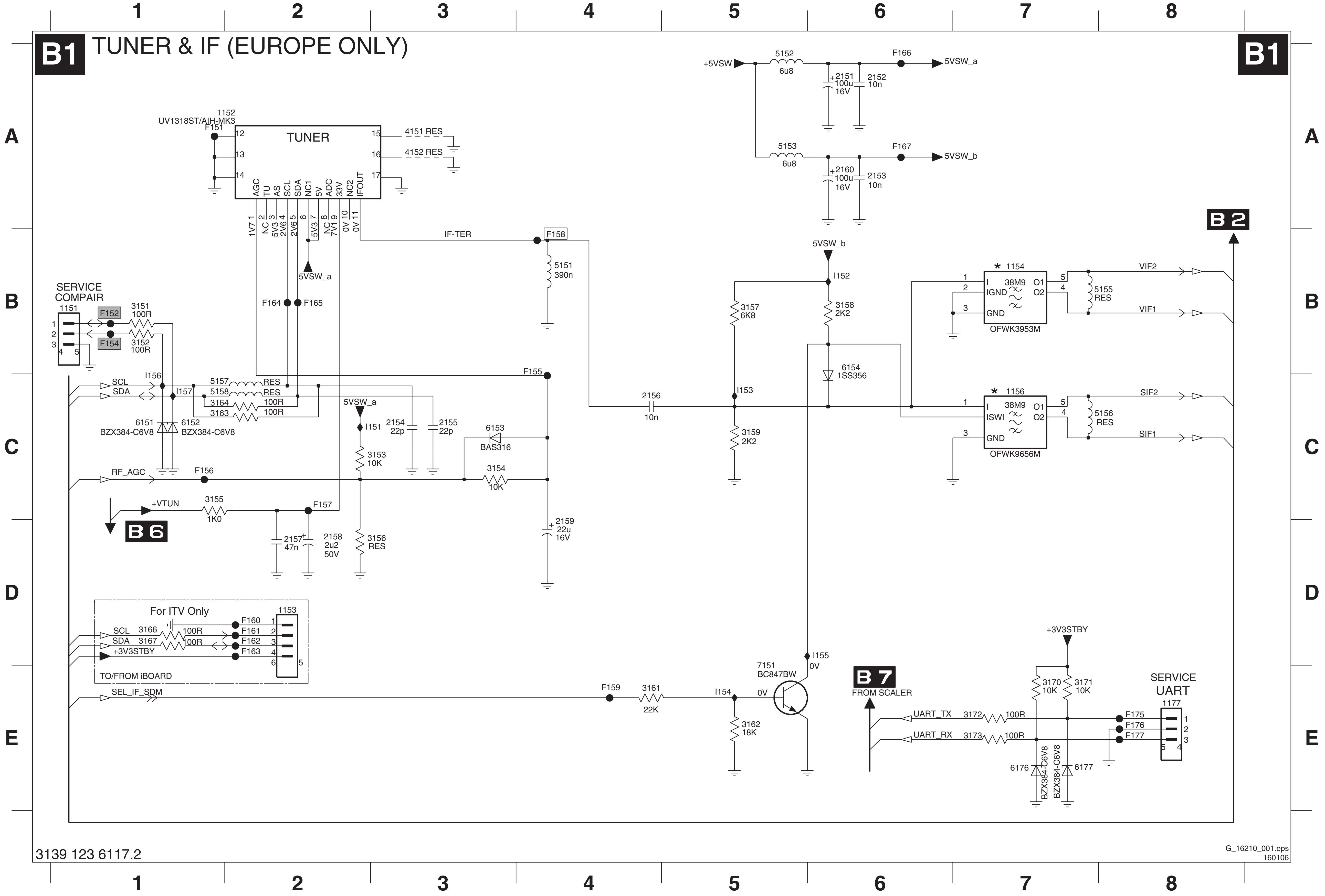

Part 3
D
E
F
1
2
3
4
5
A K
3054
2050
3013
2008
6010
3012
2044
2028
3057
3063
3025
3040
2033
2025
2023
3089
3034
3052
2031
3037
2030
3024
2024
3038
2032
3023
3091
2064
6023
A
7010
R
3030
3022
3068
3041
9002
2026
7004
E B
2037
3051
3027
3010
3044
2019
3011
3047
6022
K A
6026
3009
6017
2048
3039
3056
3036
2046
6006
3055
2047
3060
2049
2042
3032
2039
7003
E B
C
3033
2051
3031
6044
6043
A K A K
6011
3066
3067
6042
A K
6024
6025
6032
6033
9009
9003
2021
2009

G_16210_057c.eps
190106

Layout PSU (37”) (Part 4 Bottom Side)

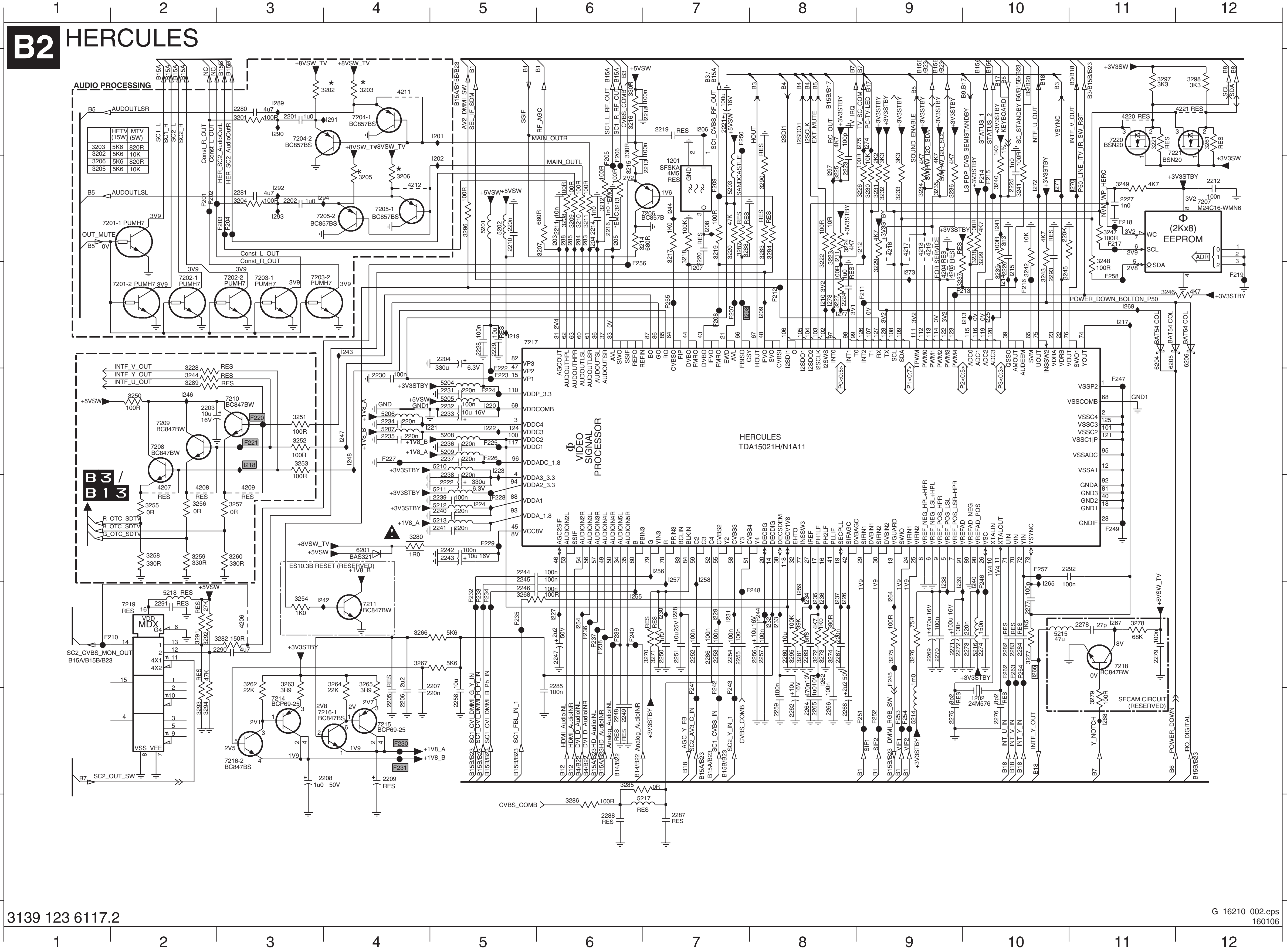

G_16210_057a.eps
190106
Part 4
2015
2063
3021
3046
3045
3054
2050
3013
2008
6011
3012
3089
2053
2054
7004
2026
2037
3051
3027
7009
3028
3001
3035
6304
3059
7011
2027
3049
6018
2016
6036
6035
3003
9528
2062
3004
3010
2019
3011
3044
3047
3042
6020
6005
6022
6026
6004
2058
6305
3002
6017
2048
3039
3056
3009
2007
3043
3048
2006
2040
3008
6038
2061
3036
2046
6006
2047
3060
3007
3006
3005
3020
3019
3306
6002
2064
6028
2035
7008
6003
6012
2055
6008
2052
2056
2057
6013
6007
3016
3029
3062
6027
2036
7007
6317
9311
6314
6318
3310
6316
6315
6353
6354
D
E
F
6
7
8
9
10
G_16210_057d.eps
190106

SSB: Tuner and VIF


B1
TUNER & IF (EUROPE ONLY)
1 2 3 4 5 6 7 8
A B C D E
1152
UV1318ST/AIH-MK3
TUNER
F151
AGC TU AS SCL SDA NC1 5V ADC 33V NC2 IFOUT
1V7 1
NC 2
5V3 3
2V6 4
2V6 5
6
5V3 7
NC 8
7V1 9
0V 10
0V 11
4151 RES
4152 RES
IF-TER
F158
5151
390n
5VSW_a
F164
F165
SERVICE
COMPAIR
1151
F152
F154
3151
100R
3152
100R
I156
I157
SCL
SDA
5157 RES
5158 RES
3164 100R
3163 100R
6151
BZX384-C6V8
6152
BZX384-C6V8
F155
5VSW_a
I151
2154
22p
2155
22p
6153
BAS316
3153
10K
RF_AGC
F156
3154
10K
+VTUN
3155
1K0
F157
B6
2157
47n
2158
2u2
50V
3156
RES
2159
22u
16V
For ITV Only
1153
SCL 3166 100R
SDA 3167 100R
+3V3STBY
F160
F161
F162
F163
TO/FROM iBOARD
SEL_IF_SDM
F159
3161
22K
I154
0V
3162
18K
7151
BC847BW
I155
0V
+5VSW
5152
6u8
2151
100u
16V
2152
10n
F166
5VSW_a
5153
6u8
2160
100u
16V
2153
10n
F167
5VSW_b
5VSW_b
I152
3157
6K8
3158
2K2
6154
1SS356
I153
2156
10n
3159
2K2
1154
38M9
I IGND GND O1 O2
OFWK3953M
5155
RES
VIF2
VIF1
1156
38M9
I ISWI GND O1 O2
OFWK9656M
5156
RES
SIF2
SIF1
B2
B7
FROM SCALER
+3V3STBY
3170
10K
3171
10K
UART_TX 3172 100R
UART_RX 3173 100R
F175
F176
F177
SERVICE
UART
1177
6176
BZX384-C6V8
6177
BZX384-C6V8
3139 123 6117.2
G_16210_001.eps
160106

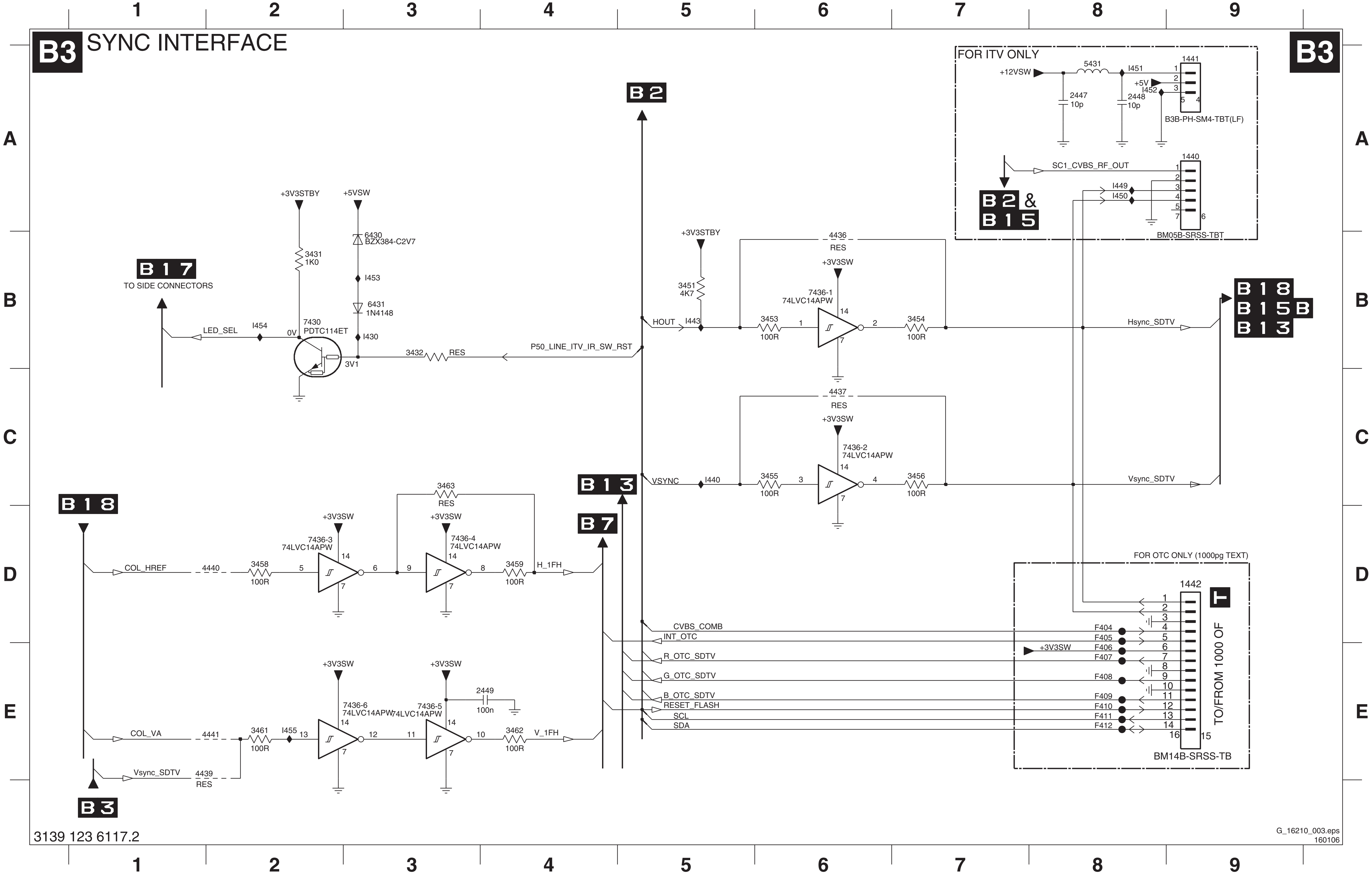
Item	Position
1151	B1
1152	A2
1153	D2
1154	B7
1156	C7
1177	E8
2151	A6
2152	A6
2153	A6
2154	C3
2155	C3
2156	C4
2157	D2
2158	D2
2159	C4
2160	A6
3151	B1
3152	B1
3153	C3
3154	C3
3155	C1
3156	D3
3157	B5
3158	B6
3159	C5
3161	E4
3162	E5
3163	C1
3164	C1
3166	D1
3167	D1
3170	E7
3171	E7
3172	E7
3173	E7
4151	A3
4152	A3
5151	B4
5152	A5
5153	A5
5155	B7
5156	C8
5157	C1
5158	C1
6151	C1
6152	C1
6153	C3
6154	B6
6176	E7
6177	E7
7151	E5
F151	A1
F152	B1
F154	B1
F155	C4
F156	C1
F157	C2
F158	B4
F159	E4
F160	D2
F161	D2
F162	D2
F163	D2
F164	B2
F165	B2
F166	A6
F167	A6
F175	E8
F176	E8
F177	E8
I151	C3
I152	B6
I153	C5
I154	E5
I155	D6
I156	C1
I157	C1

SSB: Hercules


B2 HERCULES
AUDIO PROCESSING
AUDOUTLSR
AUDOUTLSL
OUT_MUTE
INTF_V_OUT
INTF_Y_OUT
INTF_U_OUT
R_OTC_SDTV
B_OTC_SDTV
G_OTC_SDTV
SC2_CVBS_MON_OUT
SC2_OUT_SW
MDX
B3 / B13
HERCULES
TDA15021H/N1A11
VIDEO SIGNAL PROCESSOR
7217
(2Kx8) EEPROM
M24C16-WMN6
POWER_DOWN_BOLTON_P50
ES10.3B RESET (RESERVED)
SECAM CIRCUIT (RESERVED)
CVBS_COMB
1201 SFSKA 4M5 RES
1202 24M576
+3V3STBY
+5VSW
+8VSW_TV
+1V8_A
+1V8_B
BAT54 COL
BSN20
PUMH7
BC857BS
BC847BW
BCP69-25
BAS321
3139 123 6117.2
G_16210_002.eps
160106
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H

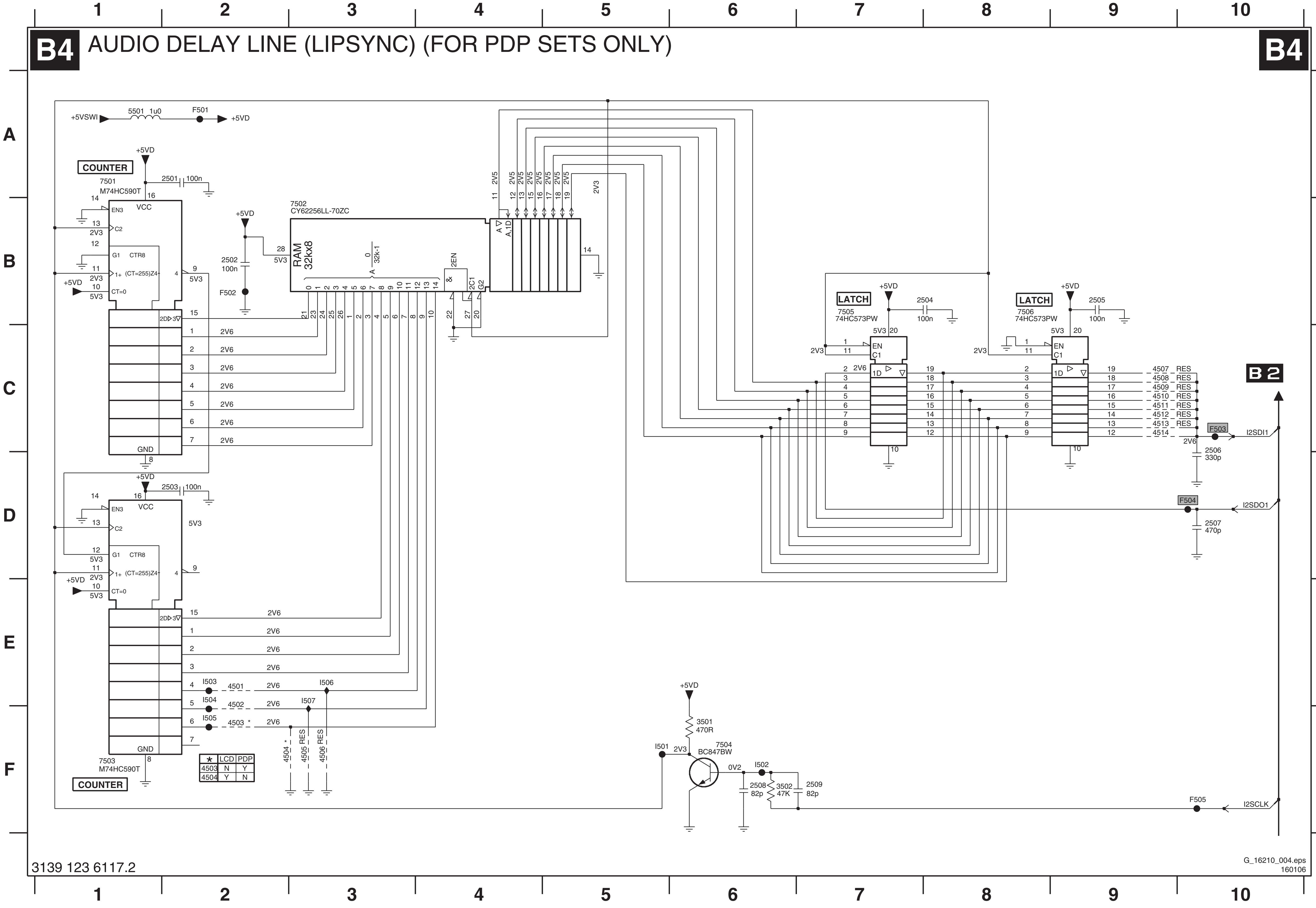
1201	B7	3211	B6	4221	A12	F254	G9
1202	G10	3212	B6	5201	B5	F255	C7
2201	A3	3213	B6	5202	B5	F256	B6
2202	B3	3214	B7	5203	B7	F257	E10
2203	D2	3215	B6	5204	D5	F258	C11
2204	C5	3216	A6	5205	D5	F262	F10
2205	G4	3217	B7	5206	D4	F263	F10
2206	G4	3218	B7	5207	D4	F264	F10
2207	F5	3219	B7	5208	D5	I201	A5
2208	G4	3220	B7	5209	D5	I202	B5
2209	G4	3221	A11	5210	D5	I203	B6
2210	B5	3222	B8	5211	E5	I204	B6
2211	B6	3223	B8	5212	E5	I205	B6
2212	B12	3224	B8	5213	E5	I206	A7
2213	B7	3225	B8	5214	G9	I207	C7
2214	B6	3226	B9	5215	F10	I208	B7
2216	B6	3227	C8	5216	F10	I209	C8
2218	A7	3228	D2	5217	H7	I210	C8
2219	A7	3229	C9	5218	F2	I211	B8
2220	B7	3230	B9	6201	E4	I212	B9
2221	A7	3231	B9	6204	C11	I213	C10
2222	E5	3232	B9	6205	C11	I214	C10
2223	B8	3233	B9	6206	C12	I215	C10
2224	C8	3234	B9	7201-1	B1	I217	C11
2225	B10	3235	B9	7201-2	C2	I218	D3
2226	C10	3236	B9	7202-1	C2	I219	C5
2227	B11	3237	C9	7202-2	C3	I220	D5
2228	C5	3238	B10	7203-1	C3	I221	D5
2229	C5	3239	C10	7203-2	C3	I222	D5
2230	D4	3240	B10	7204-1	A4	I223	D5
2231	D5	3241	B10	7204-2	A3	I224	E5
2232	D5	3242	C10	7205-1	B4	I225	C10
2233	D5	3243	C10	7205-2	B4	I226	F8
2234	D4	3244	D2	7206	B6	I227	F6
2235	D4	3245	C10	7207	B12	I228	F7
2236	D5	3246	C11	7208	D2	I229	F7
2237	D5	3247	B11	7209	D2	I230	F7
2238	E5	3248	C11	7210	D3	I231	F7
2239	E5	3249	B11	7211	F4	I232	F8
2240	E5	3250	D2	7214	G3	I233	F8
2241	E5	3251	D3	7215	G4	I234	F8
2242	E5	3252	D3	7216-1	G3	I235	F8
2243	E5	3253	D3	7216-2	G3	I236	F8
2244	E5	3254	F3	7217	C6	I237	F8
2245	E5	3255	E2	7218	F11	I238	F9
2246	F5	3256	E2	7219	F2	I239	F9
2247	F6	3257	E3	7220	A11	I240	F10
2248	G6	3258	E2	7221	A12	I241	B10
2249	G6	3259	E2	F201	B2	I242	F4
2250	F7	3260	E3	F202	B2	I243	C4
2251	F7	3261	A12	F203	B3	I244	B7
2252	F7	3262	F3	F204	B3	I246	D2
2253	F7	3263	F3	F205	B6	I247	D4
2254	F7	3264	F4	F206	B6	I248	D4
2255	F7	3265	F4	F207	C7	I254	F6
2256	F8	3266	F4	F208	C7	I255	F6
2257	F8	3267	F4	F209	B7	I256	E7
2258	G5	3268	F5	F210	F2	I257	E7
2259	G8	3270	F7	F211	C9	I258	E7
2260	F8	3271	F7	F212	C8	I259	F8
2262	G8	3272	F8	F213	C10	I262	F8
2263	F8	3273	F8	F214	B10	I264	F9
2264	G8	3274	F8	F215	B10	I265	F10
2265	G8	3275	F9	F216	C10	I266	F10
2266	G8	3276	F9	F217	B11	I267	F11
2267	F8	3277	F10	F218	B11	I268	G11
2268	G8	3278	F11	F219	C12	I269	C11
2269	F9	3279	G11	F220	D3	I270	B11
2270	F9	3280	E4	F221	D3	I271	B10
2271	F9	3281	F8	F222	D5	I272	B10
2272	F9	3282	F3	F223	D5	I273	C9
2273	F10	3283	B8	F224	D5	I274	A9
2274	F10	3284	B8	F225	D5	I275	A9
2275	G9	3285	G6	F226	D5	I277	C8
2276	G10	3286	H6	F227	D4	I278	C8
2277	F10	3287	B7	F228	E5	I283	B6
2278	F11	3288	B7	F229	E5	I284	B6
2279	F11	3289	D2	F230	G4	I285	B6
2280	A3	3290	B8	F231	G4	I288	B6
2281	B3	3291	F2	F232	F5	I289	A3
2282	F10	3292	F2	F233	F5	I290	A3
2283	F10	3293	G2	F234	F5	I291	A4
2284	F10	3294	G2	F235	F5	I292	B3
2285	F6	3295	F8	F236	F6	I293	B3
2286	F7	3296	B5	F237	F6	I294	B3
2287	H7	3297	A11	F238	F6	I297	B8
2288	H6	3298	A12	F239	F6	I298	C7
2290	F3	3299	B10	F240	F6		
2291	F2	4204	C9	F241	G7		
2292	E11	4205	C9	F242	G7		
2293	C10	4206	F3	F243	G7		
3201	A3	4207	E2	F244	F8		
3202	A4	4208	E2	F245	F9		
3203	A4	4209	E3	F246	F10		
3204	B3	4211	A4	F247	D11		
3205	B4	4212	B4	F248	F8		
3206	B4	4216	B9	F249	E11		
3207	B6	4217	B9	F250	A7		
3208	B6	4218	B9	F251	G9		
3209	B6	4219	B9	F252	G9		
3210	B6	4220	A11	F253	G9		

SSB: Sync Interface


B3 SYNC INTERFACE
B3
1 2 3 4 5 6 7 8 9
A B C D E
FOR ITV ONLY
+12VSW
5431
I451
1441
+5V
I452
2447 10p
2448 10p
B3B-PH-SM4-TBT(LF)
1440
SC1_CVBS_RF_OUT
I449
I450
BM05B-SRSS-TBT
B2 & B15
B2
+3V3STBY
+5VSW
6430 BZX384-C2V7
3431 1K0
I453
6431 1N4148
I430
7430 PDTC114ET
0V
3V1
B17
TO SIDE CONNECTORS
LED_SEL
I454
3432 RES
P50_LINE_ITV_IR_SW_RST
3451 4K7
HOUT
I443
3453 100R
4436 RES
+3V3SW
7436-1 74LVC14APW
3454 100R
Hsync_SDTV
B18
B15B
B13
4437 RES
7436-2 74LVC14APW
VSYNC
I440
3455 100R
3456 100R
Vsync_SDTV
3463 RES
7436-3 74LVC14APW
7436-4 74LVC14APW
COL_HREF
4440
3458 100R
3459 100R
H_1FH
B7
FOR OTC ONLY (1000pg TEXT)
1442
CVBS_COMB
INT_OTC
R_OTC_SDTV
G_OTC_SDTV
B_OTC_SDTV
RESET_FLASH
SCL
SDA
F404 F405 F406 F407 F408 F409 F410 F411 F412
+3V3SW
TO/FROM 1000 OF
BM14B-SRSS-TB
7436-6 74LVC14APW
7436-5 74LVC14APW
2449 100n
COL_VA
4441
3461 100R
I455
3462 100R
V_1FH
Vsync_SDTV
4439 RES
B3
3139 123 6117.2
G_16210_003.eps 160106

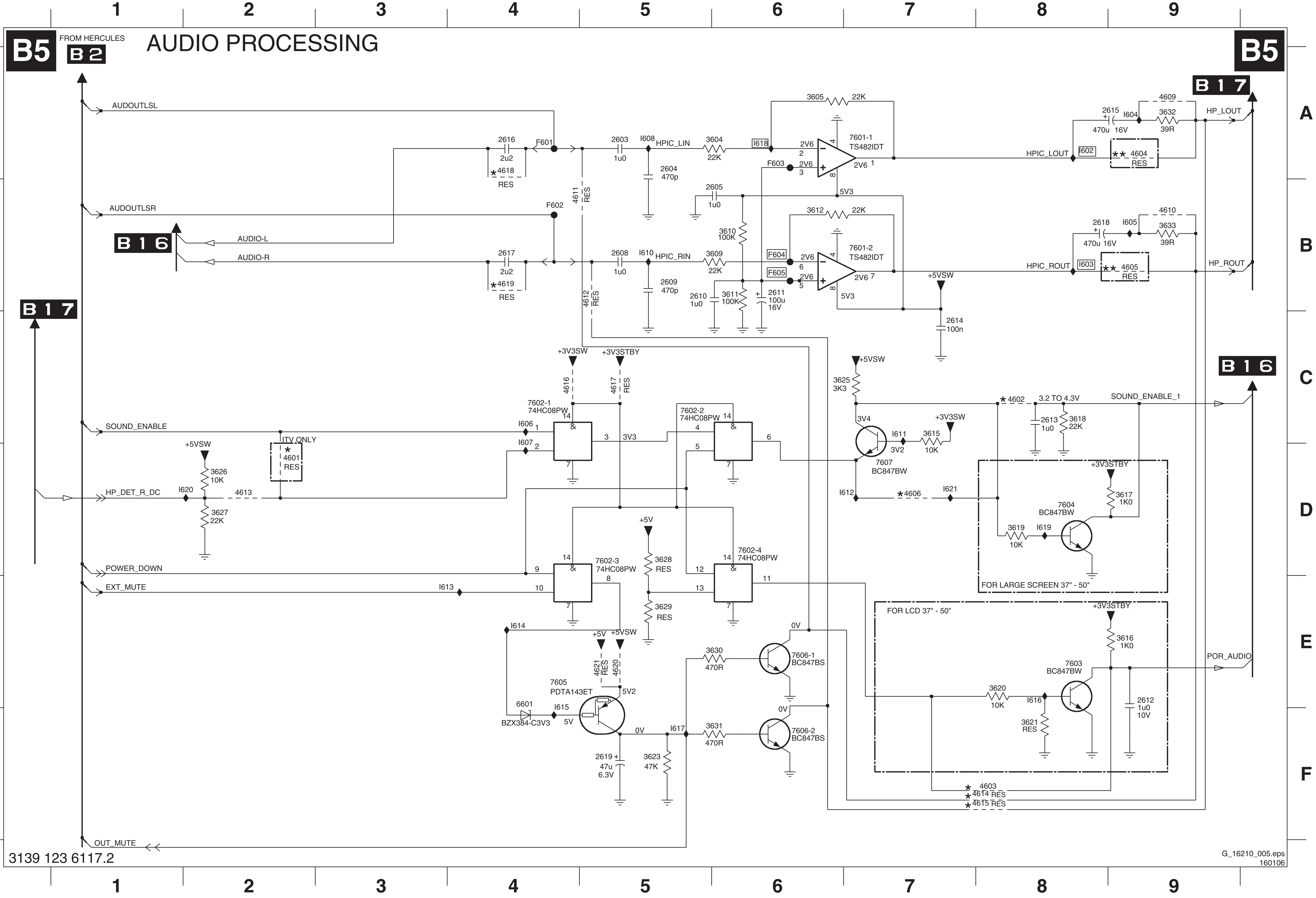
1440	A9
1441	A9
1442	D9
2447	A8
2448	A8
2449	E4
3431	B2
3432	B3
3451	B5
3453	B6
3454	B7
3455	C6
3456	C7
3458	D2
3459	D4
3461	E2
3462	E4
3463	C3
4436	B6
4437	C6
4439	E1
4440	D2
4441	E2
5431	A8
6430	B3
6431	B3
7430	B2
7436-1	B6
7436-2	C6
7436-3	D2
7436-4	D3
7436-5	E3
7436-6	E3
F404	D8
F405	D8
F406	E8
F407	E8
F408	E8
F409	E8
F410	E8
F411	E8
F412	E8
I430	B3
I440	C5
I443	B5
I449	A8
I450	A8
I451	A8
I452	A8
I453	B3
I454	B2
I455	E2

SSB: Audio Delay Line (PDP Only)


B4
AUDIO DELAY LINE (LIPSYNC) (FOR PDP SETS ONLY)
B4
+5VSWI
5501 1u0
F501
+5VD
COUNTER
7501
M74HC590T
2501 100n
7502
CY62256LL-70ZC
RAM
32kx8
F502
2502
100n
LATCH
7505
74HC573PW
2504
100n
LATCH
7506
74HC573PW
2505
100n
B2
F503
I2SDI1
2506
330p
F504
I2SDO1
2507
470p
2503 100n
7503
M74HC590T
COUNTER
I503
I504
I505
4501
4502
4503 *
I506
I507
4504 *
4505 RES
4506 RES
★ LCD PDP
4503 N Y
4504 Y N
+5VD
3501
470R
I501
7504
BC847BW
0V2
I502
2508
82p
3502
47K
2509
82p
F505
I2SCLK
3139 123 6117.2
G_16210_004.eps
160106
1 2 3 4 5 6 7 8 9 10
A B C D E F

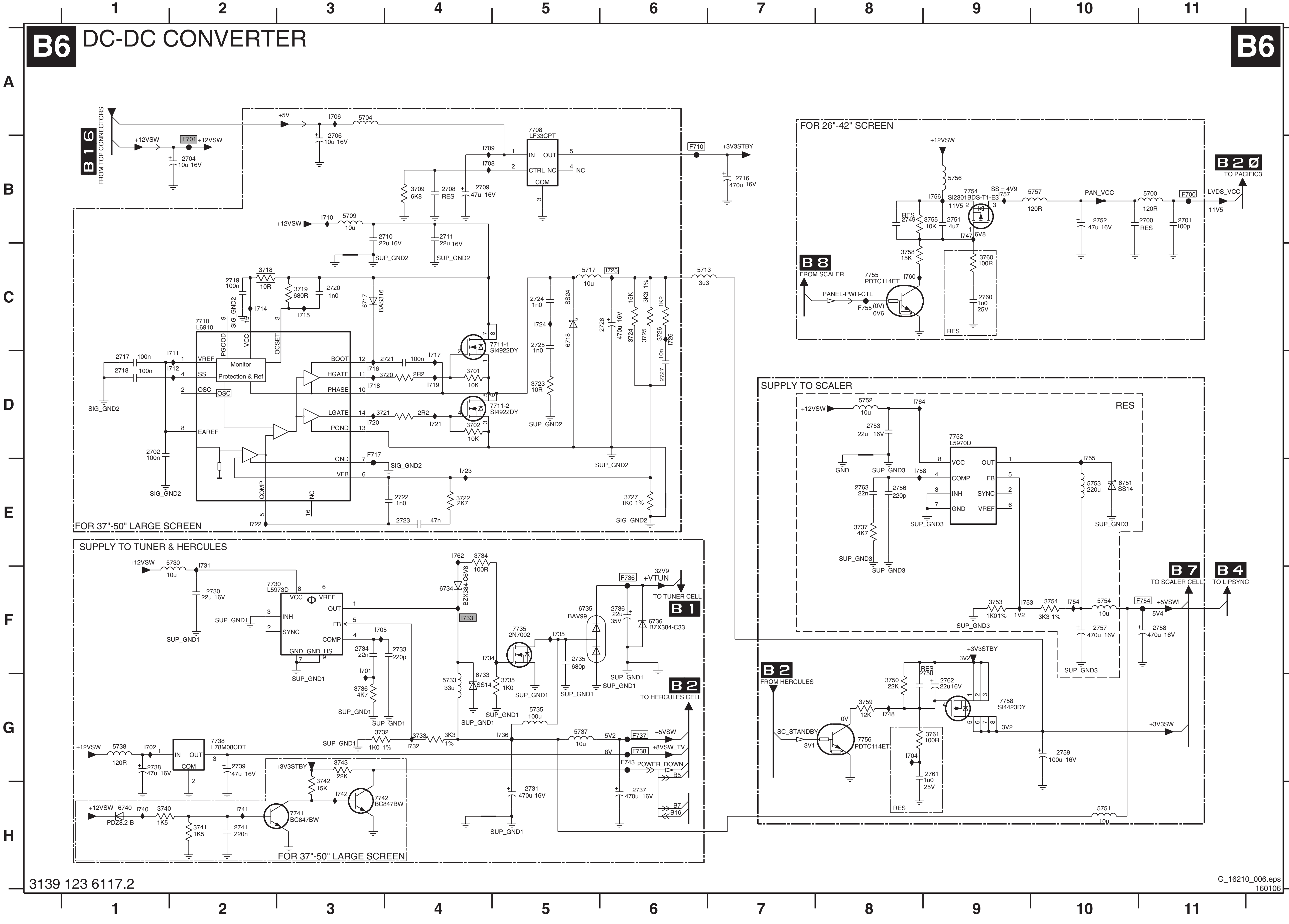
2501	A2
2502	B2
2503	D2
2504	B8
2505	B9
2506	C10
2507	D10
2508	F6
2509	F7
3501	F6
3502	F6
4501	E2
4502	F2
4503	F2
4504	F2
4505	F3
4506	F3
4507	C9
4508	C9
4509	C9
4510	C9
4511	C9
4512	C9
4513	C9
4514	C9
5501	A1
7501	A1
7502	B3
7503	F1
7504	F6
7505	B7
7506	B8
F501	A2
F502	B2
F503	C10
F504	D10
F505	F10
I501	F5
I502	F6
I503	E2
I504	E2
I505	F2
I506	E3
I507	E3

SSB: Audio Processing


B5
FROM HERCULES
B2
AUDIO PROCESSING
B17
B16
AUDOUTLSL
AUDOUTLSR
AUDIO-L
AUDIO-R
SOUND_ENABLE
HP_DET_R_DC
POWER_DOWN
EXT_MUTE
OUT_MUTE
HPIC_LIN
HPIC_RIN
HPIC_LOUT
HPIC_ROUT
HP_LOUT
HP_ROUT
SOUND_ENABLE_1
POR_AUDIO
7601-1 TS482IDT
7601-2 TS482IDT
7602-1 74HC08PW
7602-2 74HC08PW
7602-3 74HC08PW
7602-4 74HC08PW
7603 BC847BW
7604 BC847BW
7605 PDTA143ET
7606-1 BC847BS
7606-2 BC847BS
7607 BC847BW
6601 BZX384-C3V3
ITV ONLY
3.2 TO 4.3V
FOR LARGE SCREEN 37" - 50"
FOR LCD 37" - 50"
+3V3SW
+3V3STBY
+5VSW
+5V
3139 123 6117.2
G_16210_005.eps
160106
1 2 3 4 5 6 7 8 9
A B C D E F

2603	A5
2604	A5
2605	B6
2608	B5
2609	B5
2610	B5
2611	B6
2612	E9
2613	C8
2614	C7
2615	A9
2616	A4
2617	B4
2618	B8
2619	F5
3604	A6
3605	A6
3609	B6
3610	B6
3611	B6
3612	B6
3615	C7
3616	E9
3617	D9
3618	C8
3619	D8
3620	E8
3621	F8
3623	F5
3625	C6
3626	D2
3627	D2
3628	D5
3629	E5
3630	E6
3631	F6
3632	A9
3633	B9
4601	D2
4602	C8
4603	F8
4604	A9
4605	B9
4606	D7
4609	A9
4610	B9
4611	B4
4612	B5
4613	D2
4614	F8
4615	F8
4616	C4
4617	C5
4618	A4
4619	B4
4620	E5
4621	E5
6601	E4
7601-1	A7
7601-2	B7
7602-1	C4
7602-2	C5
7602-3	D5
7602-4	D6
7603	E8
7604	D8
7605	E4
7606-1	E6
7606-2	F6
7607	D7
F601	A4
F602	B4
F603	A6
F604	B6
F605	B6
I602	A8
I603	B8
I604	A9
I605	B9
I606	C4
I607	C4
I608	A5
I610	B5
I611	C7
I612	D7
I613	E3
I614	E4
I615	E4
I616	E8
I617	F5
I618	A6
I619	D8
I620	D2
I621	D7

SSB: DC-DC Converter


B6
DC-DC CONVERTER
B6
1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H
B16
FROM TOP CONNECTORS
+12VSW
F701
+12VSW
2704 10u 16V
+5V
I706
5704
2706 10u 16V
7708 LF33CPT
IN OUT
CTRL NC
COM
NC
I709
I708
F710
+3V3STBY
2716 470u 16V
3709 6K8
2708 RES
2709 47u 16V
+12VSW
I710
5709 10u
2710 22u 16V
2711 22u 16V
SUP_GND2
3718 10R
2719 100n
3719 680R
2720 1n0
I714
I715
6717 BAS316
SIG_GND2
7710 L6910
VREF SS OSC EAREF
PGOOD VCC OCSET
Monitor
Protection & Ref
OSC
BOOT HGATE PHASE LGATE PGND GND VFB
COMP NC
2717 100n
2718 100n
I711
I712
SIG_GND2
2702 100n
SIG_GND2
2721 100n
I716
I717
3720 2R2
I718
I719
3701 10K
7711-1 SI4922DY
7711-2 SI4922DY
3721 2R2
I720
I721
3702 10K
F717
SIG_GND2
I723
2722 1n0
3722 2K7
2723 47n
I722
2724 1n0
I724
2725 1n0
3723 10R
SUP_GND2
6718 SS24
5717 10u
I725
2726 470u 16V
3724 15K
3725 3K3 1%
3726 1K2
I726
2727 10n
5713 3u3
SUP_GND2
3727 1K0 1%
SIG_GND2
FOR 37"-50" LARGE SCREEN
SUPPLY TO TUNER & HERCULES
+12VSW
5730 10u
I731
2730 22u 16V
7730 L5973D
VCC VREF INH SYNC OUT FB COMP GND GND HS
SUP_GND1
I705
2734 22n
2733 220p
I701
3736 4K7
SUP_GND1
3732 1K0 1%
I732
3733 3K3 1%
I762
3734 100R
6734 BZX384-C6V8
I733
7735 2N7002
I734
5733 33u
6733 SS14
3735 1K0
SUP_GND1
I735
2735 680p
6735 BAV99
2736 22u 35V
6736 BZX384-C33
F736
+VTUN
32V9
TO TUNER CELL
B1
B2
TO HERCULES CELL
5735 100u
I736
5737 10u
5V2
F737
+5VSW
8V
F738
+8VSW_TV
F743
POWER_DOWN
B5
B7
B16
2731 470u 16V
2737 470u 16V
+12VSW
5738 120R
I702
7738 L78M08CDT
IN OUT COM
2738 47u 16V
2739 47u 16V
+3V3STBY
3743 22K
3742 15K
I742
7742 BC847BW
7741 BC847BW
+12VSW
6740 PDZ8.2-B
I740
3740 1K5
3741 1K5
I741
2741 220n
FOR 37"-50" LARGE SCREEN
FOR 26"-42" SCREEN
+12VSW
5756
7754 SI2301BDS-T1-E3
SS = 4V9
I756
I757
11V5
6V8
I747
RES 2749
3755 10K
2751 4u7
3758 15K
3760 100R
2760 1u0 25V
RES
5757 120R
PAN_VCC
2752 47u 16V
5700 120R
2700 RES
2701 100p
F700
LVDS_VCC
11V5
B20
TO PACIFIC3
B8
FROM SCALER
PANEL-PWR-CTL
F755
(0V) 0V6
7755 PDTC114ET
I760
SUPPLY TO SCALER
RES
+12VSW
5752 10u
I764
2753 22u 16V
GND
SUP_GND3
7752 L5970D
VCC OUT COMP FB INH SYNC GND VREF
I758
2763 22n
2756 220p
3737 4K7
SUP_GND3
I755
5753 220u
6751 SS14
SUP_GND3
B7
TO SCALER CELL
B4
TO LIPSYNC
3753 1K0 1%
1V2
I753
3754 3K3 1%
I754
5754 10u
F754
+5VSWI
5V4
2757 470u 16V
2758 470u 16V
SUP_GND3
B2
FROM HERCULES
+3V3STBY
3V2
RES 2750
3750 22K
2762 22u 16V
7758 SI4423DY
3759 12K
I748
SC_STANDBY
3V1
0V
7756 PDTC114ET
3761 100R
I704
2761 1u0 25V
RES
3V2
+3V3SW
2759 100u 16V
5751 10u

3139 123 6117.2

G_16210_006.eps
160106

Part	Location
2700	B11
2701	B11
2702	D1
2704	B2
2706	A3
2708	B4
2709	B4
2710	B4
2711	B4
2716	B7
2717	D1
2718	D1
2719	C2
2720	C3
2721	D4
2722	E4
2723	E4
2724	C5
2725	C5
2726	C5
2727	D6
2730	F2
2731	H5
2733	F4
2734	F3
2735	F5
2736	F6
2737	H6
2738	G1
2739	G2
2741	H2
2749	B8
2750	F9
2751	B9
2752	B10
2753	D8
2756	E8
2757	F10
2758	F11
2759	G10
2760	C9
2761	G9
2762	G9
2763	E8
3701	D4
3702	D4
3709	B4
3718	C2
3719	C3
3720	D4
3721	D3
3722	E4
3723	D5
3724	C6
3725	C6
3726	C6
3727	E6
3732	G3
3733	G4
3734	E4
3735	G5
3736	G3
3737	E8
3740	H2
3741	H2
3742	H3
3743	G3
3750	G8
3753	F9
3754	F10
3755	B9
3758	C8
3759	G8
3760	C9
3761	G9
5700	B11
5704	A3
5709	B3
5713	C6
5717	C5
5730	E2
5733	G4
5735	G5
5737	G5
5738	G1
5751	H10
5752	D8
5753	E10
5754	F10
5756	B9
5757	B10
6717	C3
6718	C5
6733	G4
6734	F4
6735	F5
6736	F6
6740	H1
6751	E10
7708	A5
7710	C2
7711-1	C4
7711-2	D4
7730	F2
7735	F5
7738	G2
7741	H3
7742	H3
7752	D9
7754	B9
7755	C8
7756	G8
7758	G9
F700	B11
F701	B2
F710	B6
F717	D3
F736	F6
F737	G6
F738	G6
F743	G6
F754	F11
F755	C8
I701	F3
I702	G1
I704	G8
I705	F3
I706	A3
I708	B4
I709	B4
I710	B3
I711	D2
I712	D2
I714	C2
I715	C3
I716	D3
I717	D4
I718	D3
I719	D4
I720	D3
I721	D4
I722	E2
I723	E4
I724	C5
I725	C6
I726	C6
I731	E2
I732	G4
I733	F4
I734	F4
I735	F5
I736	G5
I740	H1
I741	H2
I742	H3
I747	B9
I748	G8
I753	F9
I754	F10
I755	D10
I756	B9
I757	B9
I758	E8
I760	C8
I762	E4
I764	D8

SSB: Diversity Tables B1-B6

B01

Item nr.	EU non DVB	EU DVB	Description
1152	☑	☐	TUN V+U PLL IEC BGHIL B
	☐	☑	TUNER UV1318SD/A CP H N-4
3163	☑	☐	RST SM 0603 100R PM5 COL
3164	☑	☐	RST SM 0603 100R PM5 COL
5152	☐	☑	FXDIND SM 1008 1U PM5 COL R
	☑	☐	FXDIND SM 1008 6U8 PM5 COL R
5157	☐	☑	FXDIND 0603 100MHZ 600R COL R
5158	☐	☑	FXDIND 0603 100MHZ 600R COL R

B02

Item Nr.		/93 China	AP 10pg TXT	EU 10pg TXT	EU 10pg TXT DVB	EU 1000pg TXT	EU 1000pg TXT DVE	Description
2203	319803041090	☑	☑	☑	☑	☐	☐	ELCAP SM 16V 10U PM20 COL R
2244	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2245	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2246	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2280	202055200005	☐	☑	☐	☑	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2281	202055200005	☐	☑	☐	☑	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2289	319802131510	☐	☐	☑	☑	☑	☑	RST SM 0603 150R PM5 COL
2290	222224059872	☐	☐	☑	☑	☑	☑	CER2 0805 Y5V 10V 4U7 P8020 R
2291	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
3250	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3251	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3252	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3253	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3255	319803190010	☑	☑	☑	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3256	319803190010	☑	☑	☑	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3257	319803190010	☑	☑	☑	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3258	319803101020	☑	☑	☑	☑	☐	☐	RST SM 0402 1K PM5 COL
3259	319803101020	☑	☑	☑	☑	☐	☐	RST SM 0402 1K PM5 COL
3260	319803101020	☑	☑	☑	☑	☐	☐	RST SM 0402 1K PM5 COL
3282	319802131510	☐	☐	☑	☑	☑	☑	RST SM 0603 150R PM5 COL
3294	319803104730	☐	☐	☑	☑	☑	☑	RST SM 0402 47K PM5 COL
3296	319803101010	☐	☐	☐	☑	☐	☑	RST SM 0402 100R PM5 COL
4206	319802190020	☑	☑	☐	☐	☐	☐	RST SM 0805 JUMP. 0R05 COL R
4218	319803190010	☐	☐	☑	☑	☑	☑	RST SM 0402 JUMP. 0R05 COL
4219	319803190010	☐	☐	☑	☑	☑	☑	RST SM 0402 JUMP. 0R05 COL
5218	242254945333	☐	☐	☑	☑	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
6206	319801010660	☐	☐	☐	☑	☐	☑	DIO SIG SM BAT54 SOD323 COL R
7208	319801042310	☑	☑	☑	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7209	319801042310	☑	☑	☑	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7210	319801042310	☑	☑	☑	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7217	935280215557	☐	☐	☑	☑	☐	☐	IC SM TDA15031H/N1C91 (PHSE)Y
	935280366557	☐	☑	☐	☐	☑	☑	IC SM TDA15021H/N1C91 (PHSE) Y
	935280367557	☑	☐	☐	☐	☐	☐	IC SM TDA15011H/N1CD0 (PHSE) Y
7219	319801071090	☐	☐	☑	☑	☑	☑	IC SM 74HC4053D (COL) R

B03

Item Nr.		10pg TXT (w/o OTC)	1000pg TXT (with OTC)	DVB 10pg TXT (w/o OTC)	DVB 1000pg TXT (with OTC	Description
1442	242202519085	☐	☑	☐	☑	CON V 14P M 1.00 SM SR R
3432	319803102720	☐	☐	☑	☑	RST SM 0402 2K7 PM5 COL
6430	934054842115	☑	☑	☐	☐	DIO REG SM PDZ2.4B (PHSE) R
6431	932220595685	☑	☑	☐	☐	DIO SIG SM 1N4148WS-V (VISH) R

B05

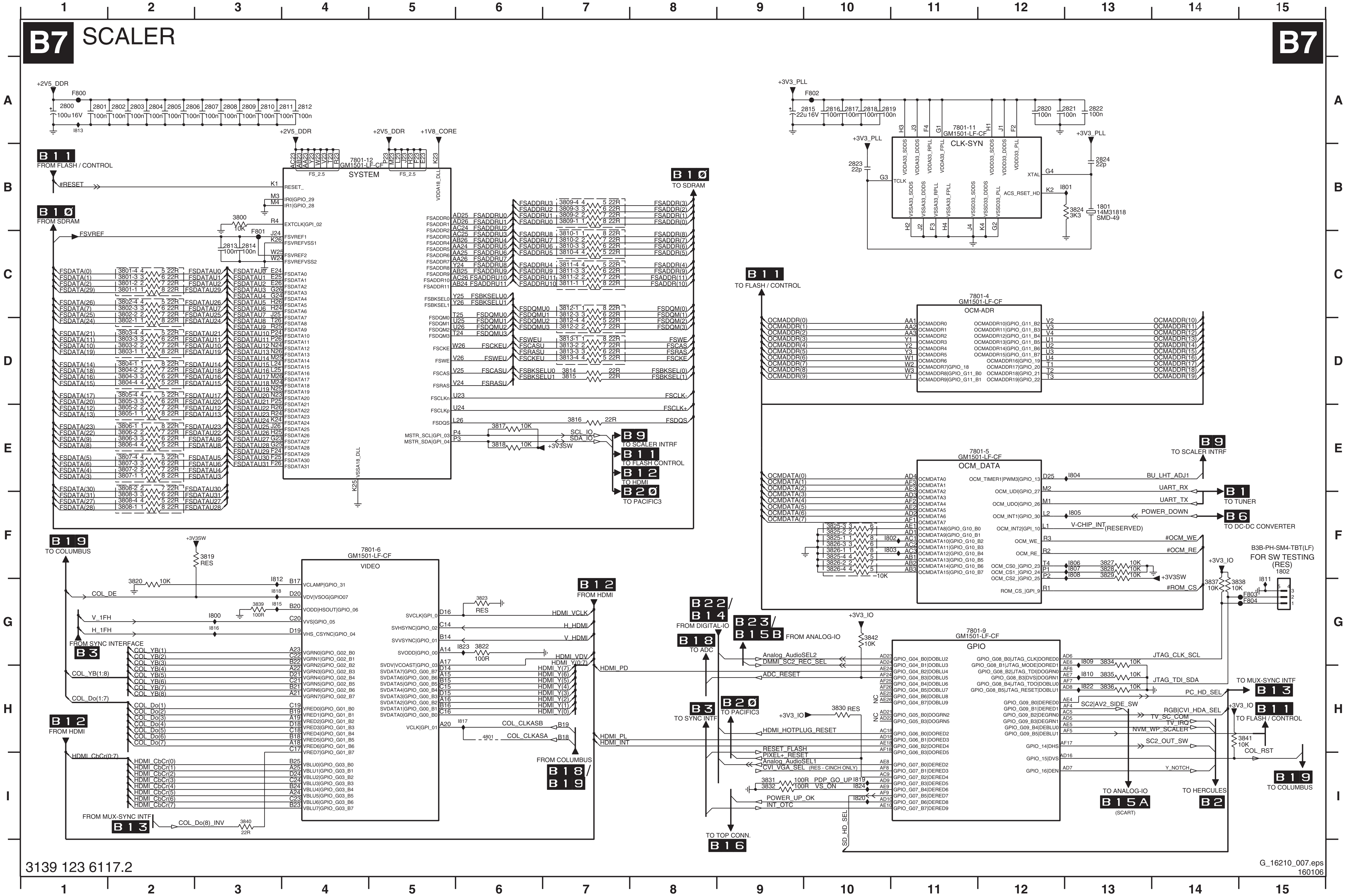
Item Nr.		LCD 37" - 50"	LCD 26" - 32"	PDP 42" - 50"	Decription
2612	319801741050	☑	☐	☑	CER2 0603 Y5V 10V 1U COL
2613	319801741050	☐	☑	☐	CER2 0603 Y5V 10V 1U COL
2616	202055200035	☐	☑	☐	CER2 0603 X5R 6V3 2U2 PM10 R
2617	202055200035	☐	☑	☐	CER2 0603 X5R 6V3 2U2 PM10 R
2619	319803024790	☐	☑	☐	ELCAP SM 6V3 47U PM20 COL R
3615	319803101030	☐	☑	☐	RST SM 0402 10K PM5 COL
3616	319803101020	☑	☐	☐	RST SM 0402 1K PM5 COL
	319803190010	☐	☐	☑	RST SM 0402 JUMP. 0R05 COL
3617	319803101020	☑	☐	☑	RST SM 0402 1K PM5 COL
3618	319803102230	☐	☑	☐	RST SM 0402 22K PM5 COL
3619	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3620	319803101030	☑	☐	☐	RST SM 0402 10K PM5 COL
3623	319803104730	☐	☑	☐	RST SM 0402 47K PM5 COL
3625	319803103320	☐	☑	☐	RST SM 0402 3K3 PM5 COL
3627	319803102230	☐	☑	☐	RST SM 0402 22K PM5 COL
3628	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3629	319803102230	☑	☐	☑	RST SM 0402 22K PM5 COL
3630	319803102220	☑	☐	☑	RST SM 0402 2K2 PM5 COL
	319803103310	☐	☑	☐	RST SM 0402 330R PM5 COL
3631	319803102220	☑	☐	☑	RST SM 0402 2K2 PM5 COL
	319803103310	☐	☑	☐	RST SM 0402 330R PM5 COL
3632	232270570569	☑	☐	☑	RST SM 0402 RC31 56R PM5 R
3633	232270570569	☑	☐	☑	RST SM 0402 RC31 56R PM5 R
4601	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4602	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4603	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4606	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4609	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4610	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4611	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4612	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4613	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4614	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4615	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4618	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4619	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
7603	319801042310	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7604	319801042310	☑	☐	☑	TRA SIG SM BC847BW (COL) R
7607	319801042310	☐	☑	☐	TRA SIG SM BC847BW (COL) R

B06

Item Nr.		PDP - 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	Description
2701	319803401010	☐	☑	☑	CER1 0402 NP0 50V 100P COL
2702	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2706	319803041090	☑	☐	☑	ELCAP SM 16V 10U PM20 COL R
2709	319803044790	☑	☐	☑	ELCAP SM 16V 47U PM20 COL R
2710	202055200211	☑	☐	☑	CER2 1210 X5R 16V 22U PM10 R
2711	202055200211	☑	☐	☑	CER2 1210 X5R 16V 22U PM10 R
2717	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2718	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2719	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2720	319803501020	☑	☐	☑	CER2 0402 X7R 50V 1N COL
2721	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2722	319803501020	☑	☐	☑	CER2 0402 X7R 50V 1N COL
2723	319803574730	☑	☐	☑	CER2 0402 Y5V 16V 47N COL
2724	319801631020	☑	☐	☑	CER1 0603 NP0 25V 1N COL
2725	319801631020	☑	☐	☑	CER1 0603 NP0 25V 1N COL
2726	202002100097	☑	☐	☑	ELCAP SM SGV 16V 470U PM20 R
2727	319803521030	☑	☐	☑	CER2 0402 X7R 16V 10N COL
2741	319801732240	☑	☐	☐	CER2 0603 X7R 10V 220N COL
	222224059872	☐	☑	☑	CER2 0805 Y5V 10V 4U7 P8020 R
2752	319803044790	☐	☑	☑	ELCAP SM 16V 47U PM20 COL R
3701	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3702	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3709	319803106820	☑	☐	☑	RST SM 0402 6K8 PM5 COL
3718	232275061009	☑	☐	☑	RST SM FUSE 1206 10R PM5 R
3719	319803106810	☑	☐	☑	RST SM 0402 680R PM5 COL
3720	319802132280	☑	☐	☑	RST SM 0603 2R2 PM5 COL
3721	319802132280	☑	☐	☑	RST SM 0603 2R2 PM5 COL
3722	319803102720	☑	☐	☑	RST SM 0402 2K7 PM5 COL
3723	319802151090	☑	☐	☑	RST SM 0805 10R PM5 COL R
3724	319803101530	☑	☐	☑	RST SM 0402 15K PM5 COL
3725	232270463302	☑	☐	☑	RST SM 0603 RC22H 3K3 PM1 R
3726	319803101220	☑	☐	☑	RST SM 0402 1K2 PM5 COL
3727	232270461002	☑	☐	☑	RST SM 0603 RC22H 1K PM1 R
3740	319803101520	☑	☐	☑	RST SM 0402 1K5 PM5 COL
3741	319803101520	☑	☐	☑	RST SM 0402 1K5 PM5 COL
3742	319803101530	☑	☐	☑	RST SM 0402 15K PM5 COL
3743	319803102230	☑	☐	☑	RST SM 0402 22K PM5 COL
3750	319803102230	☐	☑	☐	RST SM 0402 22K PM5 COL
3755	319803101030	☐	☑	☑	RST SM 0402 10K PM5 COL
3758	319803101530	☐	☑	☑	RST SM 0402 15K PM5 COL
3759	319803101230	☐	☑	☐	RST SM 0402 12K PM5 COL
5700	242254945333	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
5704	242254945333	☑	☐	☑	IND FXD 1206 EMI 100MHZ 120R R
5709	242253594134	☑	☐	☑	IND FXD SM 7032 10U PM20 R
5713	242253601218	☑	☐	☑	IND FXD SM DRH104RNP 3U3 PM30
5717	242253600671	☑	☐	☑	IND FXD SM 12575 10U PM20 R
5754	242253594134	☐	☐	☐	IND FXD SM 7032 10U PM20 R
5756	242254945333	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
5757	242254945333	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
6717	319801010630	☑	☐	☑	DIO SIG SM BAS316 (COL) R
6718	319801010720	☑	☐	☑	DIO REC SS24 COL R
6740	934054857115	☑	☐	☑	DIO REG SM PDZ8.2B (PHSE) R
6751	319801010710	☐	☐	☐	DIO REC SS14 COL R
7708	932213916668	☑	☐	☑	IC SM LF33CPT (ST00) R
7710	932218277668	☑	☐	☑	IC SM L6910 (ST00) R
7711	932216070668	☑	☐	☑	FET POW SM SI4936ADY-E3(VISH)R
7741	319801042310	☑	☐	☑	TRA SIG SM BC847BW (COL) R
7742	319801042310	☑	☐	☑	TRA SIG SM BC847BW (COL) R
7754	932221400668	☐	☑	☑	FET POW SM SI2301BDS-E3(VISH)R
7755	319801044110	☐	☐	☑	TRA SIG SM PDTC114ET (COL) R
7756	319801044110	☐	☑	☐	TRA SIG SM PDTC114ET (COL) R
7758	932221214668				FET POW SM SI4423DY-E3 (VISH)R

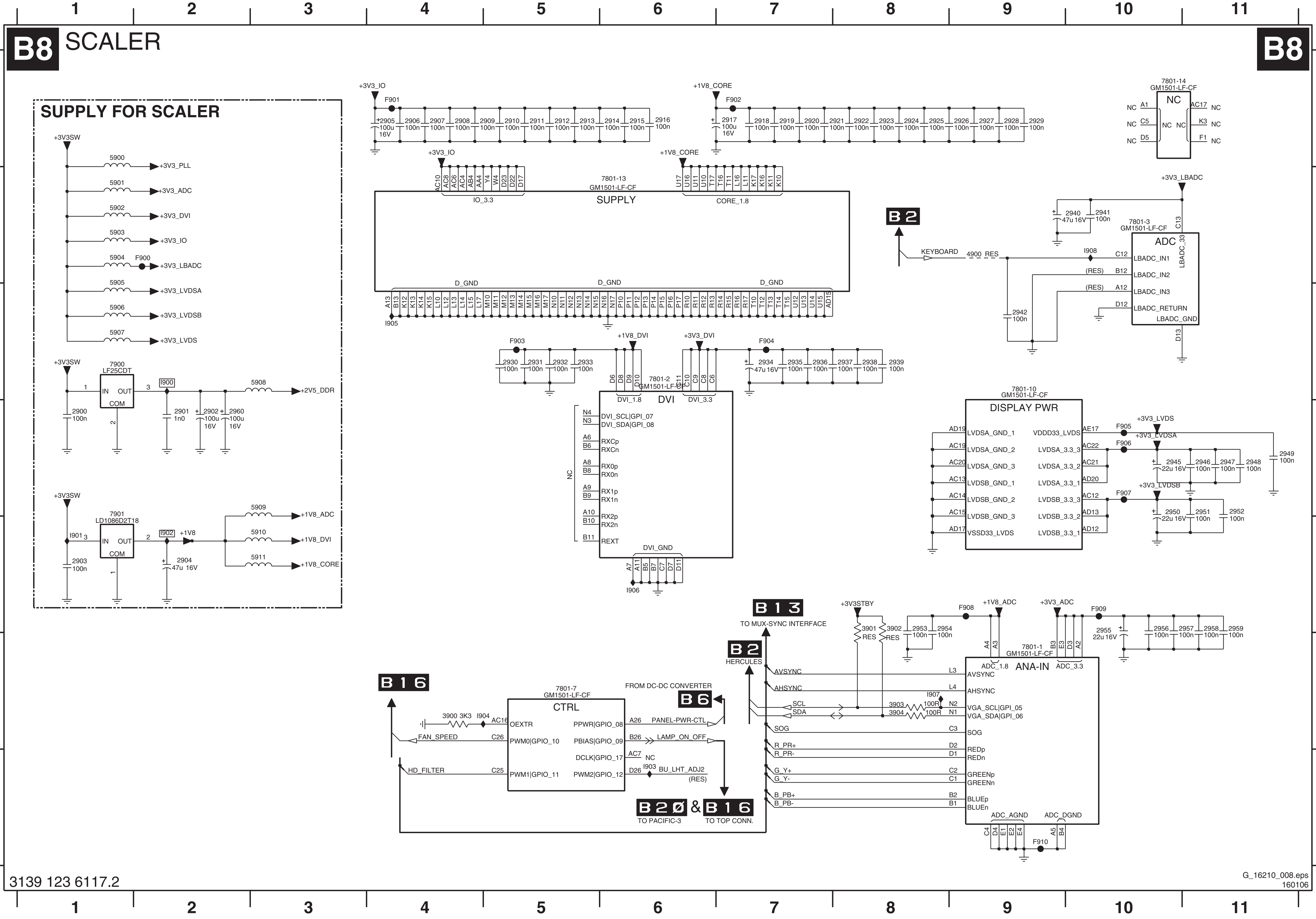
G_16210_065.eps
190106

SSB: Scaler


B7 SCALER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I
+2V5_DDR
F800
2800 100u 16V
2801 2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 100n
+3V3_PLL
F802
2815 22u 16V
2816 2817 2818 2819 100n
2820 2821 2822 100n
B11 FROM FLASH / CONTROL
#RESET
B10 FROM SDRAM
FSVREF
3800 10K
F801
2813 100n
2814 100n
7801-12 GM1501-LF-CF SYSTEM
+2V5_DDR
+1V8_CORE
7801-11 GM1501-LF-CF CLK-SYN
2823 22p
2824 22p
1801 14M31818 SMD-49
3824 3K3
B10 TO SDRAM
FSADDR(0)…FSADDR(11)
FSDATA(0)…FSDATA(31)
FSDQM(0)…FSDQM(3)
FSWE FSCAS FSRAS FSCKE
FSBKSEL(0) FSBKSEL(1)
FSCLK- FSCLK+ FSDQS
3816 22R
3817 10K
3818 10K
SCL_IO SDA_IO
+3V3SW
B9 TO SCALER INTRF
B11 TO FLASH CONTROL
B12 TO HDMI
B20 TO PACIFIC3
7801-4 GM1501-LF-CF OCM-ADR
OCMADDR(0)…OCMADDR(19)
7801-5 GM1501-LF-CF OCM_DATA
OCMDATA(0)…OCMDATA(7)
B9 TO SCALER INTRF
BU_LHT_ADJ1
UART_RX UART_TX
B1 TO TUNER
POWER_DOWN
B6 TO DC-DC CONVERTER
V-CHIP_INT (RESERVED)
#OCM_WE
#OCM_RE
#ROM_CS
3827 3828 3829 10K
B3B-PH-SM4-TBT(LF) FOR SW TESTING (RES) 1802
3837 10K
3838 10K
F803 F804
B19 TO COLUMBUS
3819 RES
3820 10K
7801-6 GM1501-LF-CF VIDEO
COL_DE
V_1FH
H_1FH
FROM SYNC INTERFACE B3
COL_YB(1:8)
COL_Do(1:7)
B12 FROM HDMI
HDMI_CbCr(0:7)
FROM MUX-SYNC INTF B13
COL_Do(8)_INV
3840 22R
B12 FROM HDMI
HDMI_VCLK
H_HDMI
V_HDMI
HDMI_VDV
HDMI_Y(0:7)
HDMI_PD
COL_CLKASB
COL_CLKASA
FROM COLUMBUS B18/B19
HDMI_PL
HDMI_INT
B22/B14 FROM DIGITAL-IO
B23/B15B FROM ANALOG-IO
B18 TO ADC
B3 TO SYNC INTF
B20 TO PACIFIC3
B16 TO TOP CONN.
7801-9 GM1501-LF-CF GPIO
Analog_AudioSEL2
DMMI_SC2_REC_SEL
ADC_RESET
HDMI_HOTPLUG_RESET
RESET_FLASH
PIXEL+_RESET
Analog_AudioSEL1
CVI_VGA_SEL (RES - CINCH ONLY)
PDP_GO_UP
VS_ON
POWER_UP_OK
INT_OTC
SD_HD_SEL
3842 10K
3830 RES
3831 3832 100R
JTAG_CLK_SCL
JTAG_TDI_SDA
PC_HD_SEL
TO MUX-SYNC INTF B13
SC2|AV2_SIDE_SW
RGB|CVI_HDA_SEL
TV_SC_COM
TV_IRQ
NVM_WP_SCALER
SC2_OUT_SW
Y_NOTCH
B11 TO FLASH / CONTROL
3841 10K
COL_RST
B19 TO COLUMBUS
TO ANALOG-IO B15A (SCART)
TO HERCULES B2
3139 123 6117.2
G_16210_007.eps 160106

1801	B13
1802	F15
2800	A1
2801	A1
2802	A2
2803	A2
2804	A2
2805	A2
2806	A2
2807	A3
2808	A3
2809	A3
2810	A3
2811	A4
2812	A4
2813	C3
2814	C3
2815	A10
2816	A10
2817	A10
2818	A10
2819	A10
2820	A12
2821	A13
2822	A13
2823	B10
2824	B13
3800	B3
3801-1	C2
3801-2	C2
3801-3	C2
3801-4	C2
3802-1	D2
3802-2	C2
3802-3	C2
3802-4	C2
3803-1	D2
3803-2	D2
3803-3	D2
3803-4	D2
3804-1	D2
3804-2	D2
3804-3	D2
3804-4	D2
3805-1	E2
3805-2	E2
3805-3	D2
3805-4	D2
3806-1	E2
3806-2	E2
3806-3	E2
3806-4	E2
3807-1	E2
3807-2	E2
3807-3	E2
3807-4	E2
3808-1	F2
3808-2	E2
3808-3	F2
3808-4	F2
3809-1	B7
3809-2	B7
3809-3	B7
3809-4	B7
3810-1	C7
3810-2	C7
3810-3	C7
3810-4	C7
3811-1	C7
3811-2	C7
3811-3	C7
3811-4	C7
3812-1	C7
3812-2	D7
3812-3	C7
3812-4	D7
3813-1	D7
3813-2	D7
3813-3	D7
3813-4	D7
3814	D7
3815	D7
3816	E7
3817	E6
3818	E6
3819	F3
3820	G2
3822	G6
3823	G6
3824	B13
3825-1	F10
3825-2	F10
3825-3	F10
3825-4	F10
3826-1	F10
3826-2	F10
3826-3	F10
3826-4	F10
3827	F13
3828	F13
3829	F13
3830	H10
3831	I9
3832	I9
3834	G13
3835	H13
3836	H13
3837	G14
3838	G14
3839	G3
3840	I3
3841	H15
3842	G10
4801	H6
7801-11	A11
7801-12	B4
7801-4	C12
7801-5	E12
7801-6	F5
7801-9	G11
F800	A1
F801	C3
F802	A10
F803	G15
F804	G15
I800	G3
I801	B13
I802	F10
I803	F10
I804	E13
I805	F13
I806	F13
I807	F13
I808	F13
I809	G13
I810	H13
I811	G15
I812	G3
I813	A1
I815	G3
I816	G3
I817	H6
I818	G3
I819	I10
I820	I10
I822	H13
I823	G6
I824	I10

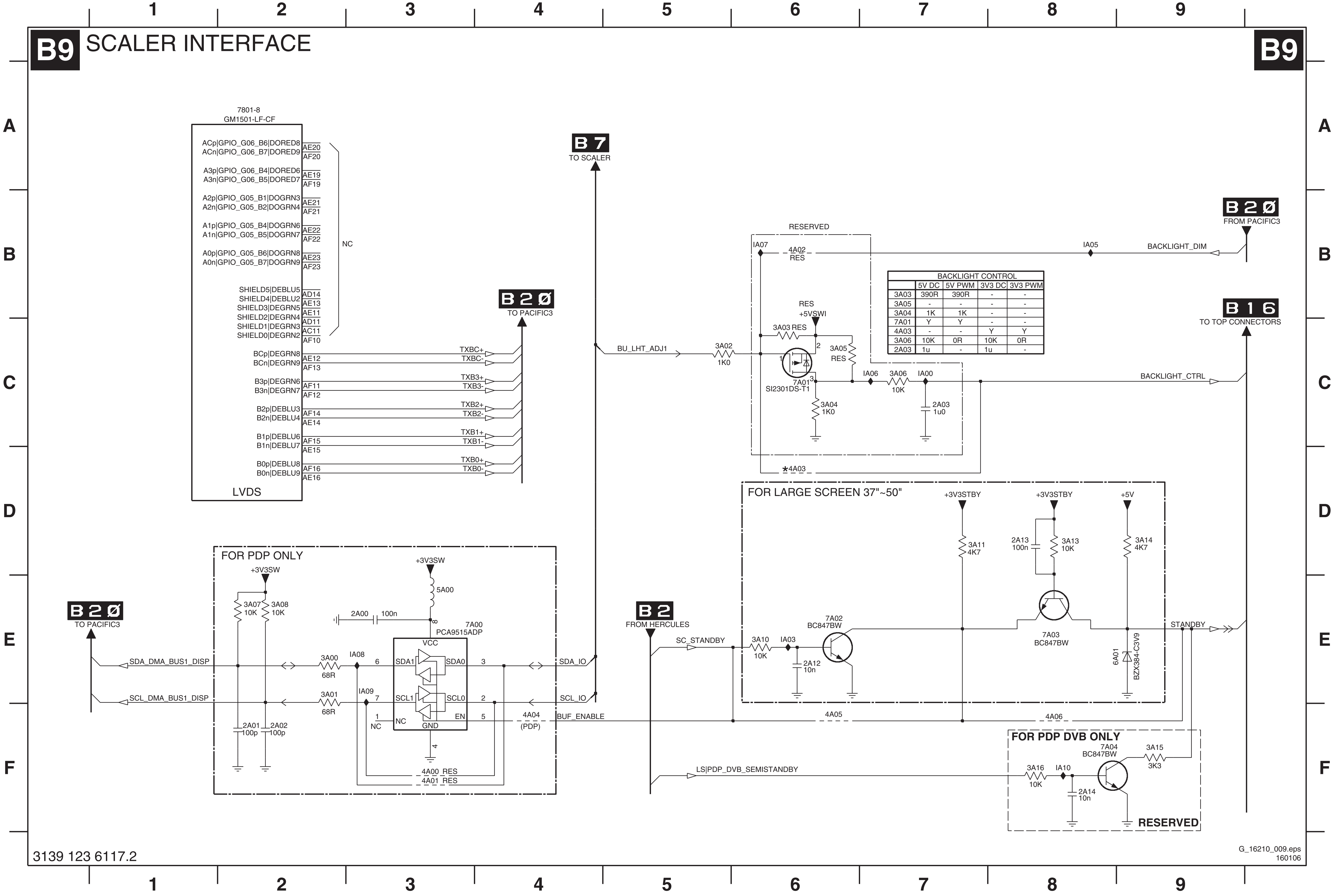
SSB: Scaler



B8 SCALER
SUPPLY FOR SCALER
+3V3SW
5900 +3V3_PLL
5901 +3V3_ADC
5902 +3V3_DVI
5903 +3V3_IO
5904 F900 +3V3_LBADC
5905 +3V3_LVDSA
5906 +3V3_LVDSB
5907 +3V3_LVDS
7900 LF25CDT
IN OUT COM
I900
5908 +2V5_DDR
2900 100n
2901 1n0
2902 100u 16V
2960 100u 16V
7901 LD1086D2T18
I901
I902 +1V8
2903 100n
2904 47u 16V
5909 +1V8_ADC
5910 +1V8_DVI
5911 +1V8_CORE
+3V3_IO
F901
2905 100u 16V
2906 … 2916 100n
+1V8_CORE
F902
2917 100u 16V
2918 … 2929 100n
7801-13 GM1501-LF-CF
SUPPLY
IO_3.3
CORE_1.8
D_GND
I905
7801-14 GM1501-LF-CF
NC
+3V3_LBADC
2940 47u 16V
2941 100n
7801-3 GM1501-LF-CF
ADC
B2
KEYBOARD
4900 RES
I908
LBADC_IN1
LBADC_IN2
LBADC_IN3
LBADC_RETURN
LBADC_GND
(RES)
2942 100n
F903
2930 2931 2932 2933 100n
+1V8_DVI
+3V3_DVI
F904
2934 47u 16V
2935 2936 2937 2938 2939 100n
7801-2 GM1501-LF-CF
DVI
DVI_1.8
DVI_3.3
DVI_SCL|GPI_07
DVI_SDA|GPI_08
RXCp RXCn RX0p RX0n RX1p RX1n RX2p RX2n REXT
NC
DVI_GND
I906
7801-10 GM1501-LF-CF
DISPLAY PWR
LVDSA_GND_1 LVDSA_GND_2 LVDSA_GND_3
LVDSB_GND_1 LVDSB_GND_2 LVDSB_GND_3
VSSD33_LVDS
VDDD33_LVDS
LVDSA_3.3_3 LVDSA_3.3_2 LVDSA_3.3_1
LVDSB_3.3_3 LVDSB_3.3_2 LVDSB_3.3_1
F905 +3V3_LVDS
F906 +3V3_LVDSA
F907 +3V3_LVDSB
2945 22u 16V
2946 2947 2948 2949 100n
2950 22u 16V
2951 2952 100n
B13
TO MUX-SYNC INTERFACE
B2
HERCULES
+3V3STBY
3901 RES
3902 RES
2953 2954 100n
F908
+1V8_ADC
+3V3_ADC
F909
2955 22u 16V
2956 2957 2958 2959 100n
7801-1 GM1501-LF-CF
ANA-IN
ADC_1.8
ADC_3.3
AVSYNC
AHSYNC
SCL SDA
I907
3903 100R
3904 100R
VGA_SCL|GPI_05
VGA_SDA|GPI_06
SOG
R_PR+ R_PR-
REDp REDn
G_Y+ G_Y-
GREENp GREENn
B_PB+ B_PB-
BLUEp BLUEn
ADC_AGND ADC_DGND
F910
B16
3900 3K3
I904
FAN_SPEED
HD_FILTER
7801-7 GM1501-LF-CF
CTRL
OEXTR
PWM0|GPIO_10
PWM1|GPIO_11
PPWR|GPIO_08
PBIAS|GPIO_09
DCLK|GPIO_17
PWM2|GPIO_12
FROM DC-DC CONVERTER
B6
PANEL-PWR-CTL
LAMP_ON_OFF
NC
I903
BU_LHT_ADJ2
(RES)
B20 & B16
TO PACIFIC-3
TO TOP CONN.
3139 123 6117.2
G_16210_008.eps
160106

2900	D1
2901	D2
2902	D2
2903	E1
2904	E2
2905	A4
2906	A4
2907	A4
2908	A4
2909	A5
2910	A5
2911	A5
2912	A5
2913	A5
2914	A6
2915	A6
2916	A6
2917	A7
2918	A7
2919	A7
2920	A7
2921	A8
2922	A8
2923	A8
2924	A8
2925	A8
2926	A9
2927	A9
2928	A9
2929	A9
2930	C5
2931	C5
2932	C5
2933	C5
2934	C7
2935	C7
2936	C7
2937	C8
2938	C8
2939	C8
2940	B10
2941	B10
2942	C9
2945	D10
2946	D11
2947	D11
2948	D11
2949	D11
2950	D10
2951	D11
2952	D11
2953	E8
2954	E8
2955	E10
2956	E10
2957	E11
2958	E11
2959	E11
2960	D2
3900	F4
3901	E8
3902	E8
3903	F8
3904	F8
4900	B9
5900	A1
5901	B1
5902	B1
5903	B1
5904	B1
5905	C1
5906	C1
5907	C1
5908	C3
5909	D3
5910	E3
5911	E3
7801-1	F9
7801-10	C9
7801-13	B6
7801-14	A10
7801-2	C6
7801-3	B10
7801-7	F5
7900	C1
7901	D1
F900	B2
F901	A4
F902	A7
F903	C5
F904	C7
F905	D10
F906	D10
F907	D10
F908	E9
F909	E10
F910	G9
I900	C2
I901	E1
I902	E2
I903	G6
I904	F4
I905	C4
I906	E6
I907	F8
I908	B10

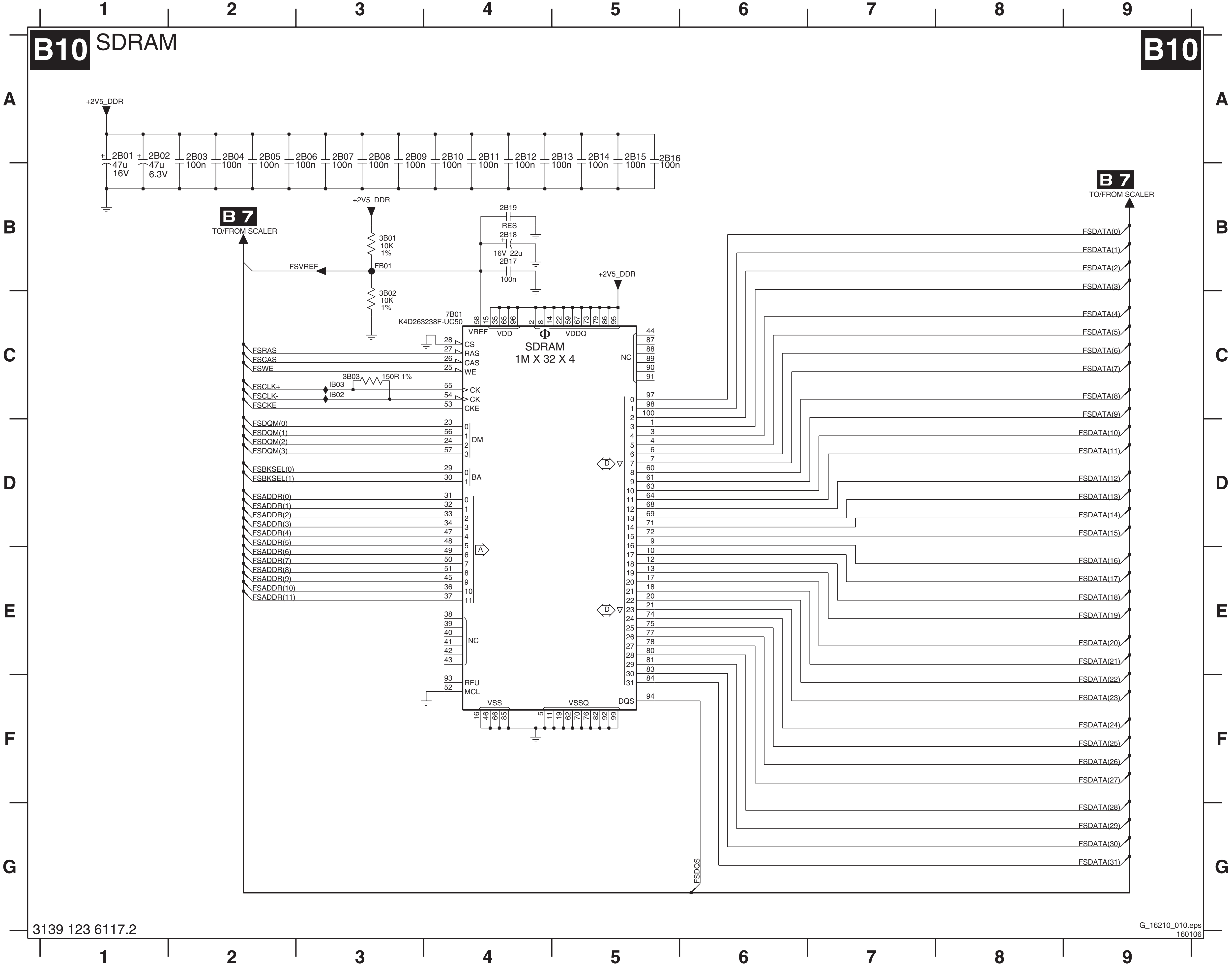
SSB: Scaler Interface


B9
SCALER INTERFACE
B9
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
7801-8
GM1501-LF-CF
ACp|GPIO_G06_B6|DORED8
ACn|GPIO_G06_B7|DORED9
A3p|GPIO_G06_B4|DORED6
A3n|GPIO_G06_B5|DORED7
A2p|GPIO_G05_B1|DOGRN3
A2n|GPIO_G05_B2|DOGRN4
A1p|GPIO_G05_B4|DOGRN6
A1n|GPIO_G05_B5|DOGRN7
A0p|GPIO_G05_B6|DOGRN8
A0n|GPIO_G05_B7|DOGRN9
SHIELD5|DEBLU5
SHIELD4|DEBLU2
SHIELD3|DEGRN5
SHIELD2|DEGRN4
SHIELD1|DEGRN3
SHIELD0|DEGRN2
BCp|DEGRN8
BCn|DEGRN9
B3p|DEGRN6
B3n|DEGRN7
B2p|DEBLU3
B2n|DEBLU4
B1p|DEBLU6
B1n|DEBLU7
B0p|DEBLU8
B0n|DEBLU9
AE20
AF20
AE19
AF19
AE21
AF21
AE22
AF22
AE23
AF23
AD14
AE13
AE11
AD11
AC11
AF10
AE12
AF13
AF11
AF12
AF14
AE14
AF15
AE15
AF16
AE16
NC
LVDS
TXBC+
TXBC-
TXB3+
TXB3-
TXB2+
TXB2-
TXB1+
TXB1-
TXB0+
TXB0-
B20
TO PACIFIC3
B7
TO SCALER
BU_LHT_ADJ1
3A02
1K0
RESERVED
IA07
4A02
RES
IA05
BACKLIGHT_DIM
B20
FROM PACIFIC3
RES
+5VSWI
3A03 RES
2
1
3
7A01
SI2301DS-T1
3A05
RES
3A04
1K0
IA06
3A06
10K
IA00
2A03
1u0
*4A03
BACKLIGHT_CTRL
B16
TO TOP CONNECTORS
FOR LARGE SCREEN 37"~50"
+3V3STBY
+3V3STBY
+5V
3A11
4K7
2A13
100n
3A13
10K
3A14
4K7
7A02
BC847BW
7A03
BC847BW
STANDBY
6A01
BZX384-C3V9
B2
FROM HERCULES
SC_STANDBY
3A10
10K
IA03
2A12
10n
4A05
4A06
FOR PDP DVB ONLY
7A04
BC847BW
3A15
3K3
3A16
10K
IA10
2A14
10n
RESERVED
LS|PDP_DVB_SEMISTANDBY
FOR PDP ONLY
+3V3SW
3A07
10K
3A08
10K
+3V3SW
5A00
2A00
100n
8
7A00
PCA9515ADP
VCC
SDA1
SDA0
SCL1
SCL0
NC
GND
EN
6
3
7
2
1
5
4
NC
B20
TO PACIFIC3
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
3A00
68R
IA08
3A01
68R
IA09
2A01
100p
2A02
100p
4A04
(PDP)
SDA_IO
SCL_IO
BUF_ENABLE
4A00 RES
4A01 RES
3139 123 6117.2
G_16210_009.eps
160106

BACKLIGHT CONTROL				
	5V DC	5V PWM	3V3 DC	3V3 PWM
3A03	390R	390R	-	-
3A05	-	-	-	-
3A04	1K	1K	-	-
7A01	Y	Y	-	-
4A03	-	-	Y	Y
3A06	10K	0R	10K	0R
2A03	1u	-	1u	-

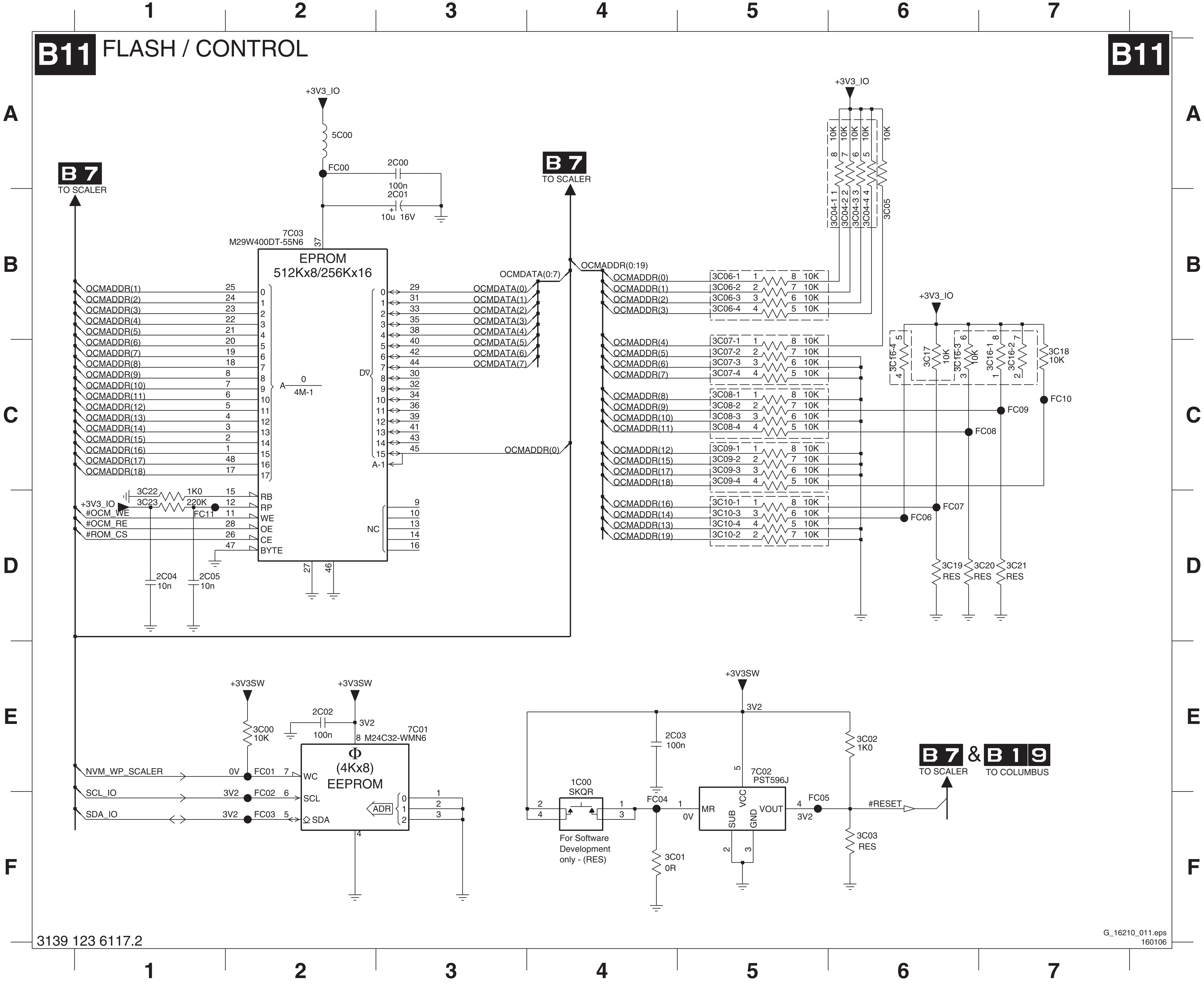
2A00	E3
2A01	F2
2A02	F2
2A03	C7
2A12	E6
2A13	D8
2A14	F8
3A00	E2
3A01	E2
3A02	C5
3A03	C6
3A04	C6
3A05	C6
3A06	C7
3A07	E2
3A08	E2
3A10	E6
3A11	D7
3A13	D8
3A14	D9
3A15	F9
3A16	F8
4A00	F3
4A01	F3
4A02	B6
4A03	D6
4A04	F4
4A05	F6
4A06	F8
5A00	E3
6A01	E9
7801-8	A2
7A00	E4
7A01	C6
7A02	E6
7A03	E8
7A04	F8
IA00	C7
IA03	E6
IA05	B8
IA06	C7
IA07	B6
IA08	E3
IA09	E3
IA10	F8

SSB: SDRAM


B10
SDRAM
B10
+2V5_DDR
2B01 47u 16V
2B02 47u 6.3V
2B03 100n
2B04 100n
2B05 100n
2B06 100n
2B07 100n
2B08 100n
2B09 100n
2B10 100n
2B11 100n
2B12 100n
2B13 100n
2B14 100n
2B15 100n
2B16 100n
B 7
TO/FROM SCALER
FSVREF
+2V5_DDR
3B01 10K 1%
FB01
3B02 10K 1%
2B19 RES
2B18 16V 22u
2B17 100n
+2V5_DDR
7B01
K4D263238F-UC50
VREF
VDD
VDDQ
SDRAM
1M X 32 X 4
NC
CS
RAS
CAS
WE
CK
CK
CKE
DM
BA
A
NC
RFU
MCL
VSS
VSSQ
DQS
D
FSRAS
FSCAS
FSWE
3B03 150R 1%
IB03
IB02
FSCLK+
FSCLK-
FSCKE
FSDQM(0)
FSDQM(1)
FSDQM(2)
FSDQM(3)
FSBKSEL(0)
FSBKSEL(1)
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(3)
FSADDR(4)
FSADDR(5)
FSADDR(6)
FSADDR(7)
FSADDR(8)
FSADDR(9)
FSADDR(10)
FSADDR(11)
B 7
TO/FROM SCALER
FSDATA(0)
FSDATA(1)
FSDATA(2)
FSDATA(3)
FSDATA(4)
FSDATA(5)
FSDATA(6)
FSDATA(7)
FSDATA(8)
FSDATA(9)
FSDATA(10)
FSDATA(11)
FSDATA(12)
FSDATA(13)
FSDATA(14)
FSDATA(15)
FSDATA(16)
FSDATA(17)
FSDATA(18)
FSDATA(19)
FSDATA(20)
FSDATA(21)
FSDATA(22)
FSDATA(23)
FSDATA(24)
FSDATA(25)
FSDATA(26)
FSDATA(27)
FSDATA(28)
FSDATA(29)
FSDATA(30)
FSDATA(31)
FSDQS
3139 123 6117.2
G_16210_010.eps
160106
1 2 3 4 5 6 7 8 9
A B C D E F G

2B01	A1
2B02	A1
2B03	A2
2B04	A2
2B05	A2
2B06	A3
2B07	A3
2B08	A3
2B09	A3
2B10	A4
2B11	A4
2B12	A4
2B13	A5
2B14	A5
2B15	A5
2B16	A5
2B17	B4
2B18	B4
2B19	B4
3B01	B3
3B02	B3
3B03	C3
7B01	C4
FB01	B3
IB02	C3
IB03	C3

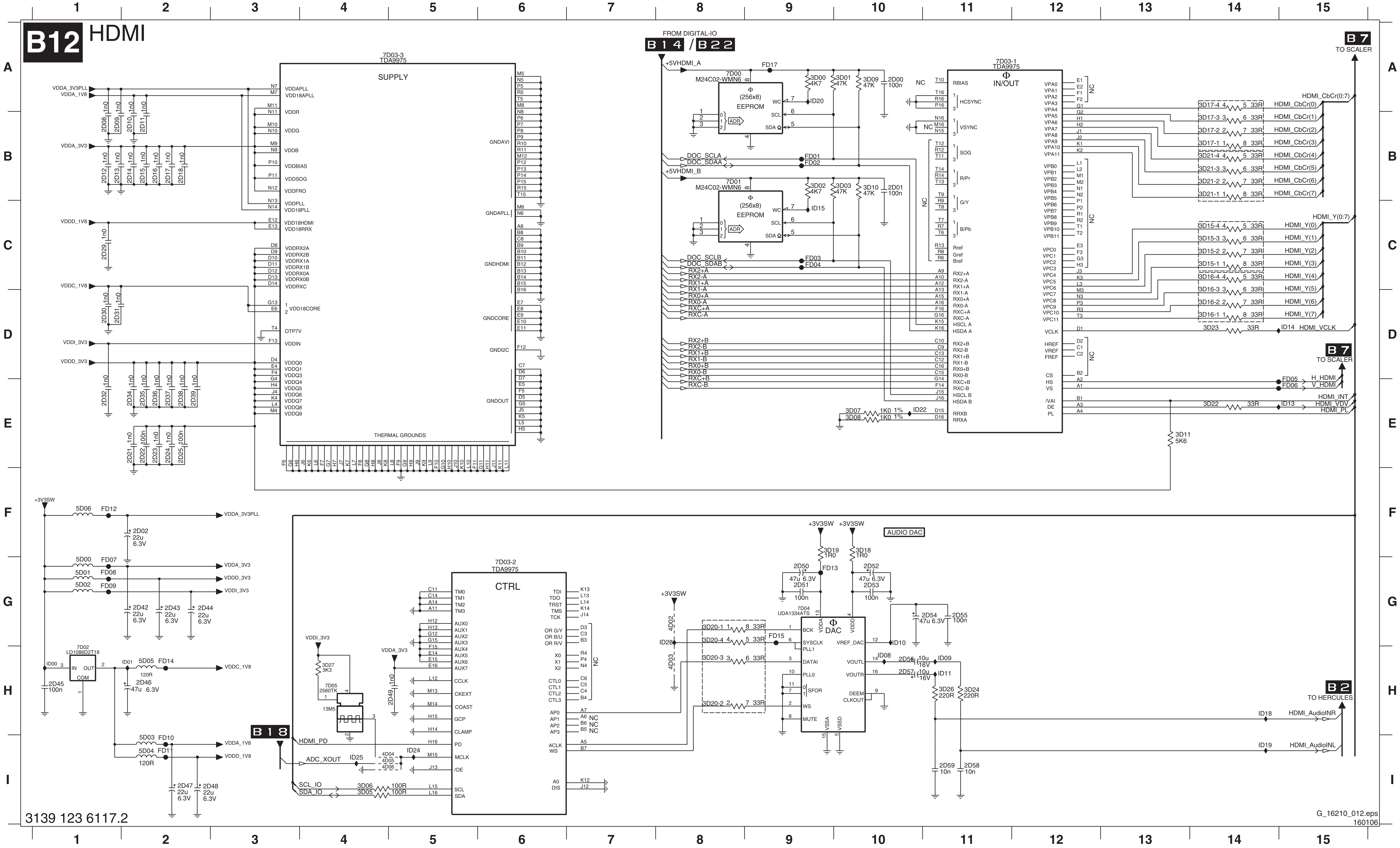
SSB: Flash / Control


B11 FLASH / CONTROL
B11
B 7 TO SCALER
B 7 TO SCALER
+3V3_IO
5C00
FC00
2C00 100n
2C01 10u 16V
7C03 M29W400DT-55N6
EPROM 512Kx8/256Kx16
OCMADDR(1) … OCMADDR(18)
OCMDATA(0:7)
OCMADDR(0:19)
OCMADDR(0)
3C22
3C23
1K0
220K
FC11
#OCM_WE
#OCM_RE
#ROM_CS
2C04 10n
2C05 10n
3C04-1 … 3C04-4 10K
3C05 10K
3C06-1 … 3C06-4 10K
3C07-1 … 3C07-4 10K
3C08-1 … 3C08-4 10K
3C09-1 … 3C09-4 10K
3C10-1 … 3C10-4 10K
3C16-1 … 3C16-4
3C17 10K
3C18 10K
3C19 RES
3C20 RES
3C21 RES
FC06
FC07
FC08
FC09
FC10
+3V3SW
3C00 10K
2C02 100n
3V2
7C01 M24C32-WMN6
Φ (4Kx8) EEPROM
NVM_WP_SCALER
SCL_IO
SDA_IO
FC01
FC02
FC03
1C00 SKQR
For Software Development only - (RES)
2C03 100n
3C01 0R
FC04
7C02 PST596J
3C02 1K0
3C03 RES
FC05
#RESET
B 7 & B 19
TO SCALER
TO COLUMBUS
3139 123 6117.2
G_16210_011.eps
160106

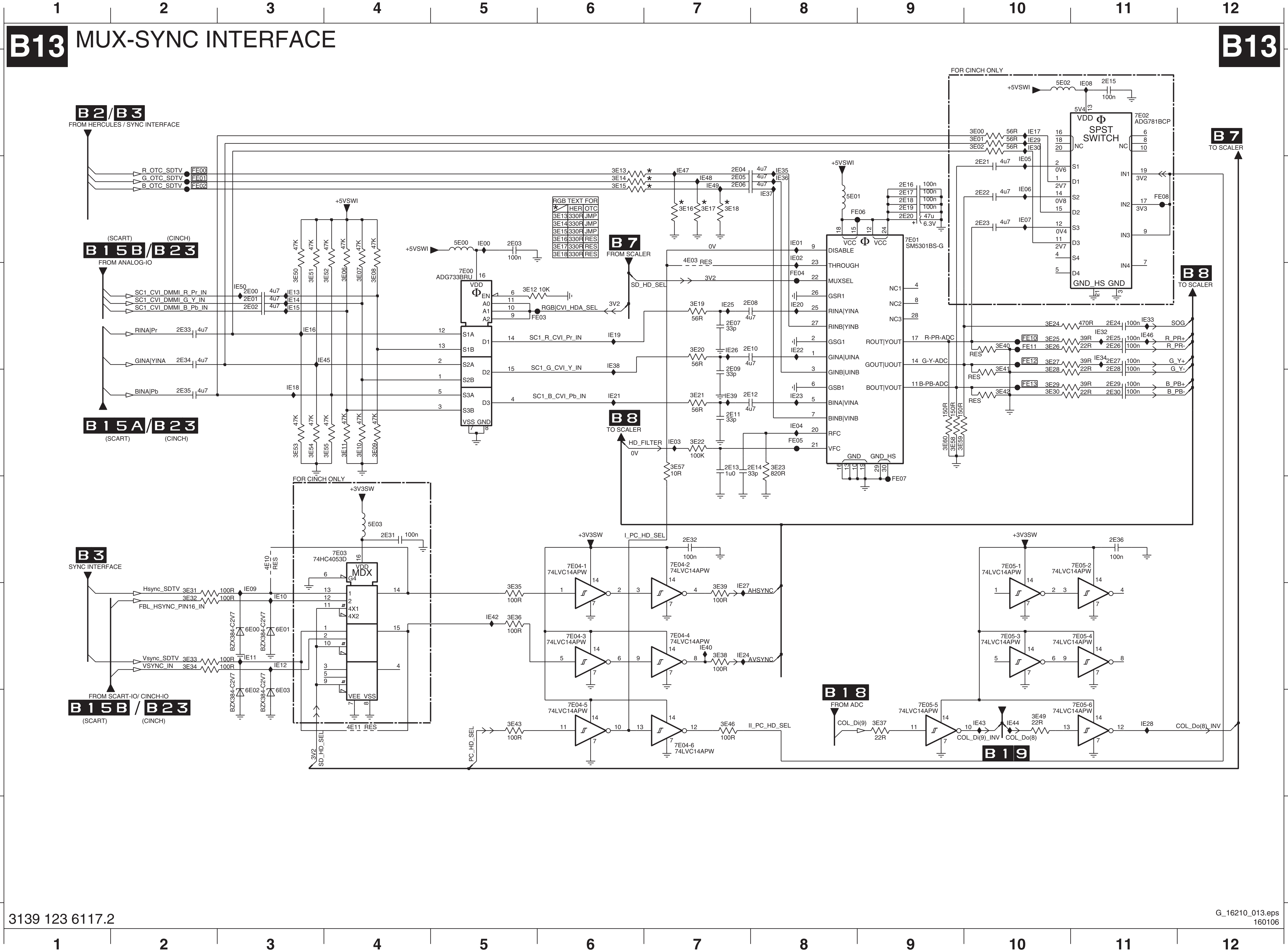
1C00	E4
2C00	A3
2C01	B3
2C02	E2
2C03	E4
2C04	D1
2C05	D1
3C00	E2
3C01	F4
3C02	E6
3C03	F6
3C04-1	B6
3C04-2	B6
3C04-3	B6
3C04-4	B6
3C05	B6
3C06-1	B5
3C06-2	B5
3C06-3	B5
3C06-4	B5
3C07-1	C5
3C07-2	C5
3C07-3	C5
3C07-4	C5
3C08-1	C5
3C08-2	C5
3C08-3	C5
3C08-4	C5
3C09-1	C5
3C09-2	C5
3C09-3	C5
3C09-4	C5
3C10-1	D5
3C10-2	D5
3C10-3	D5
3C10-4	D5
3C16-1	C7
3C16-2	C7
3C16-3	C6
3C16-4	C6
3C17	C6
3C18	C7
3C19	D6
3C20	D7
3C21	D7
3C22	D1
3C23	D1
5C00	A2
7C01	E3
7C02	E5
7C03	B2
FC00	A2
FC01	E2
FC02	F2
FC03	F2
FC04	F4
FC05	F5
FC06	D6
FC07	D6
FC08	C7
FC09	C7
FC10	C7
FC11	D1

SSB: HDMI

2D00 A10
2D01 B10
2D02 F2
2D08 B1
2D09 B1
2D10 B2
2D11 B2
2D12 B1
2D13 B1
2D14 B2
2D15 B2
2D16 B2
2D17 B2
2D18 B2
2D21 E2
2D22 E2
2D23 E2
2D24 E2
2D25 E2
2D29 C1
2D30 D1
2D31 D1
2D32 E1
2D34 E2
2D35 E2
2D36 E2
2D37 E2
2D38 E2
2D39 E2
2D42 G2
2D43 G2
2D44 G2
2D45 H1
2D46 H2
2D47 I2
2D48 I3
2D49 H5
2D50 G9
2D51 G9
2D52 G10
2D53 G10
2D54 G11
2D55 G11
2D56 H10
2D57 H10
2D58 I11
2D59 I11
3D00 A9
3D01 A10
3D02 B9
3D03 B10
3D05 I4
3D06 I4
3D07 E10
3D08 E10
3D09 A10
3D10 B10
3D11 E13
3D15-1 C14
3D15-2 C14
3D15-3 C14
3D15-4 C14
3D16-1 D14
3D16-2 D14
3D16-3 D14
3D16-4 C14
3D17-1 B14
3D17-2 B14
3D17-3 B14
3D17-4 A14
3D18 F10
3D19 F9
3D20-1 G8
3D20-2 H8
3D20-3 H8
3D20-4 G8
3D21-1 B14
3D21-2 B14
3D21-3 B14
3D21-4 B14
3D22 E14
3D23 D14
3D24 H11
3D26 H11
3D27 H4
4D02 G8
4D03 H8
4D04 I4
4D05 I4
4D06 I4
5D00 F1
5D01 G1
5D02 G1
5D03 H2
5D04 I2
5D05 H2
5D06 F1
7D00 A8
7D01 B8
7D02 H1
7D03-1 A11
7D03-2 G6
7D03-3 A5
7D04 G9
7D05 H4
FD01 B9
FD02 B9
FD03 C9
FD04 C9
FD05 E15
FD06 E15
FD07 G1
FD08 G1
FD09 G1
FD10 I2
FD11 I2
FD12 F1
FD13 G9
FD14 H2
FD15 G9
FD17 A9
ID00 H1
ID01 H2
ID08 H10
ID09 H11
ID10 G10
ID11 H11
ID13 E15
ID14 D15
ID18 H14
ID19 I14
ID20 A9
ID22 E10
ID24 I5
ID25 I4
ID28 G8


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
B12
HDMI
7D03-3
TDA9975
SUPPLY
VDDA_3V3PLL
VDDA_1V8
VDDA_3V3
VDDD_1V8
VDDC_1V8
VDDI_3V3
VDDD_3V3
VDDAPLL
VDD18APLL
VDDR
VDDG
VDDB
VDDBIAS
VDDSOG
VDDFRO
VDDPLL
VDD18PLL
VDD18HDMI
VDD18RRX
VDDRX2A
VDDRX2B
VDDRX1A
VDDRX1B
VDDRX0A
VDDRX0B
VDDRXC
VDD18CORE
OTP7V
VDDIN
VDDQ0
VDDQ1
VDDQ2
VDDQ3
VDDQ4
VDDQ5
VDDQ6
VDDQ7
VDDQ8
VDDQ9
GNDAVI
GNDAPLL
GNDHDMI
GNDCORE
GNDI2C
GNDOUT
THERMAL GROUNDS
2D08
2D09
2D10
2D11
2D12
2D13
2D14
2D15
2D16
2D17
2D18
2D29
2D30
2D31
2D32
2D34
2D35
2D36
2D37
2D38
2D39
2D21
2D22
2D23
2D24
2D25
1n0
100n
FROM DIGITAL-IO
B14
B22
+5VHDMI_A
+5VHDMI_B
FD17
7D00
M24C02-WMN6
7D01
(256x8)
EEPROM
WC
SCL
SDA
ADR
3D00
4K7
3D01
47K
3D09
47K
2D00
100n
ID20
3D02
4K7
3D03
47K
3D10
47K
2D01
100n
ID15
DOC_SCLA
DOC_SDAA
DOC_SCLB
DOC_SDAB
FD01
FD02
FD03
FD04
RX2+A
RX2-A
RX1+A
RX1-A
RX0+A
RX0-A
RXC+A
RXC-A
RX2+B
RX2-B
RX1+B
RX1-B
RX0+B
RX0-B
RXC+B
RXC-B
3D07
3D08
1K0 1%
ID22
7D03-1
TDA9975
IN/OUT
NC
RBIAS
HCSYNC
VSYNC
SOG
R/Pr
G/Y
B/Pb
Rref
Gref
Bref
HSCL A
HSDA A
HSCL B
HSDA B
RRXB
RRXA
VPA0
VPA11
VPB0
VPB11
VPC0
VPC11
VCLK
HREF
VREF
FREF
CS
HS
VS
/VAI
DE
PL
B7
TO SCALER
HDMI_CbCr(0:7)
HDMI_CbCr(0)
HDMI_CbCr(1)
HDMI_CbCr(2)
HDMI_CbCr(3)
HDMI_CbCr(4)
HDMI_CbCr(5)
HDMI_CbCr(6)
HDMI_CbCr(7)
HDMI_Y(0:7)
HDMI_Y(0)
HDMI_Y(1)
HDMI_Y(2)
HDMI_Y(3)
HDMI_Y(4)
HDMI_Y(5)
HDMI_Y(6)
HDMI_Y(7)
3D17-4
3D17-3
3D17-2
3D17-1
3D21-4
3D21-3
3D21-2
3D21-1
3D15-4
3D15-3
3D15-2
3D15-1
3D16-4
3D16-3
3D16-2
3D16-1
33R
3D23
ID14
HDMI_VCLK
FD05
FD06
H_HDMI
V_HDMI
3D22
ID13
HDMI_INT
HDMI_VDV
HDMI_PL
3D11
5K6
+3V3SW
5D06
FD12
2D02
22u
6.3V
5D00
FD07
5D01
FD08
5D02
FD09
VDDA_3V3PLL
VDDA_3V3
VDDD_3V3
VDDI_3V3
2D42
2D43
2D44
7D02
LD1086D2T18
ID00
IN
OUT
COM
2D45
100n
ID01
5D05
FD14
120R
2D46
47u 6.3V
VDDC_1V8
5D03
FD10
5D04
FD11
VDDA_1V8
VDDD_1V8
2D47
2D48
B18
HDMI_PD
ADC_XOUT
SCL_IO
SDA_IO
ID25
4D04
4D05
4D06
ID24
3D06
3D05
100R
VDDI_3V3
3D27
3K3
7D05
2560TK
13M5
VDDA_3V3
2D49
7D03-2
TDA9975
CTRL
TM0
TM1
TM2
TM3
AUX0
AUX1
AUX2
AUX3
AUX4
AUX5
AUX6
AUX7
CCLK
CKEXT
COAST
GCP
CLAMP
PD
MCLK
/OE
SCL
SDA
TDI
TDO
TRST
TMS
TCK
OR G/Y
OR B/U
OR R/V
X0
X1
X2
CTL0
CTL1
CTL2
CTL3
AP0
AP1
AP2
AP3
ACLK
WS
A0
DIS
+3V3SW
4D02
4D03
ID28
3D20-1
3D20-4
3D20-3
3D20-2
FD15
3D19
1R0
3D18
1R0
FD13
2D50
2D51
2D52
2D53
47u 6.3V
AUDIO DAC
7D04
UDA1334ATS
DAC
BCK
SYSCLK
PLL1
DATAI
PLL0
SFOR
WS
MUTE
VDDA
VDDD
VSSA
VSSD
VREF_DAC
VOUTL
VOUTR
DEEM
CLKOUT
ID10
ID08
2D56
2D57
10u
16V
ID09
ID11
2D54
47u 6.3V
2D55
100n
3D26
220R
3D24
220R
2D59
10n
2D58
10n
B2
TO HERCULES
ID18
HDMI_AudioINR
ID19
HDMI_AudioINL
3139 123 6117.2
G_16210_012.eps
160106

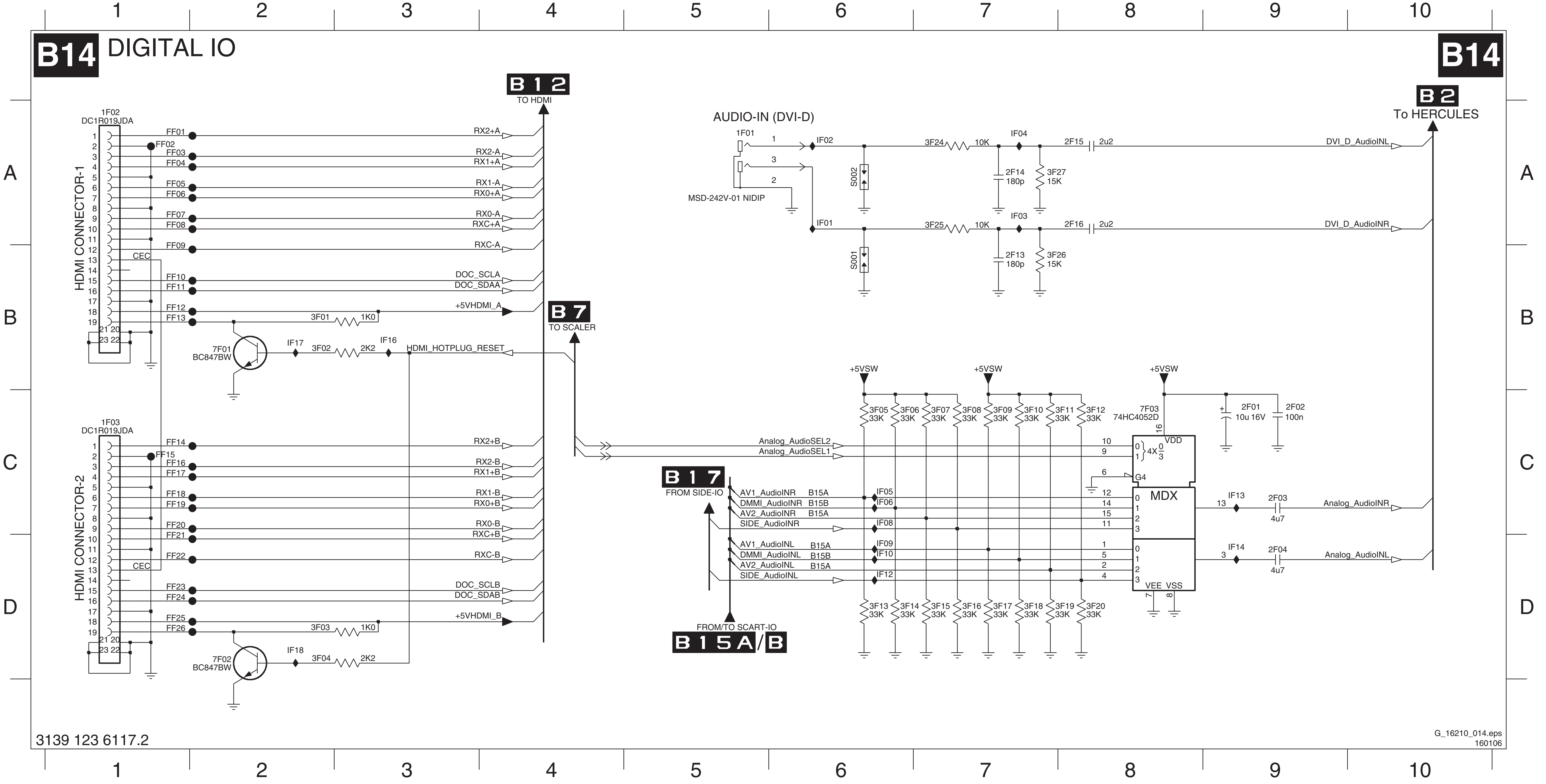
SSB: MUX-Sync Interface


B13 MUX-SYNC INTERFACE
B2/B3 FROM HERCULES / SYNC INTERFACE
R_OTC_SDTV
G_OTC_SDTV
B_OTC_SDTV
B15B/B23 (SCART) (CINCH) FROM ANALOG-IO
SC1_CVI_DMMI_R_Pr_IN
SC1_CVI_DMMI_G_Y_IN
SC1_CVI_DMMI_B_Pb_IN
RINA|Pr
GINA|YINA
BINA|Pb
B15A/B23 (SCART) (CINCH)
RGB TEXT FOR
HER OTC
7E00 ADG733BRU
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_CVI_Pb_IN
RGB|CVI_HDA_SEL
B7 FROM SCALER
SD_HD_SEL
B8 TO SCALER
HD_FILTER
7E01 SM5301BS-G
DISABLE
THROUGH
MUXSEL
R-PR-ADC
G-Y-ADC
B-PB-ADC
FOR CINCH ONLY
7E02 ADG781BCP
SPST SWITCH
B7 TO SCALER
B8 TO SCALER
SOG
R_PR+
R_PR-
G_Y+
G_Y-
B_PB+
B_PB-
B3 SYNC INTERFACE
Hsync_SDTV
FBL_HSYNC_PIN16_IN
Vsync_SDTV
VSYNC_IN
FROM SCART-IO/ CINCH-IO
B15B / B23 (SCART) (CINCH)
7E03 74HC4053D MDX
BZX384-C2V7
7E04-1 74LVC14APW
7E04-2 74LVC14APW
7E04-3 74LVC14APW
7E04-4 74LVC14APW
7E04-5 74LVC14APW
7E04-6 74LVC14APW
AHSYNC
AVSYNC
I_PC_HD_SEL
II_PC_HD_SEL
PC_HD_SEL
B18 FROM ADC
COL_Di(9)
COL_Di(9)_INV
COL_Do(8)
COL_Do(8)_INV
B19
7E05-1 74LVC14APW
7E05-2 74LVC14APW
7E05-3 74LVC14APW
7E05-4 74LVC14APW
7E05-5 74LVC14APW
7E05-6 74LVC14APW
+5VSWI
+3V3SW
3139 123 6117.2
G_16210_013.eps
160106

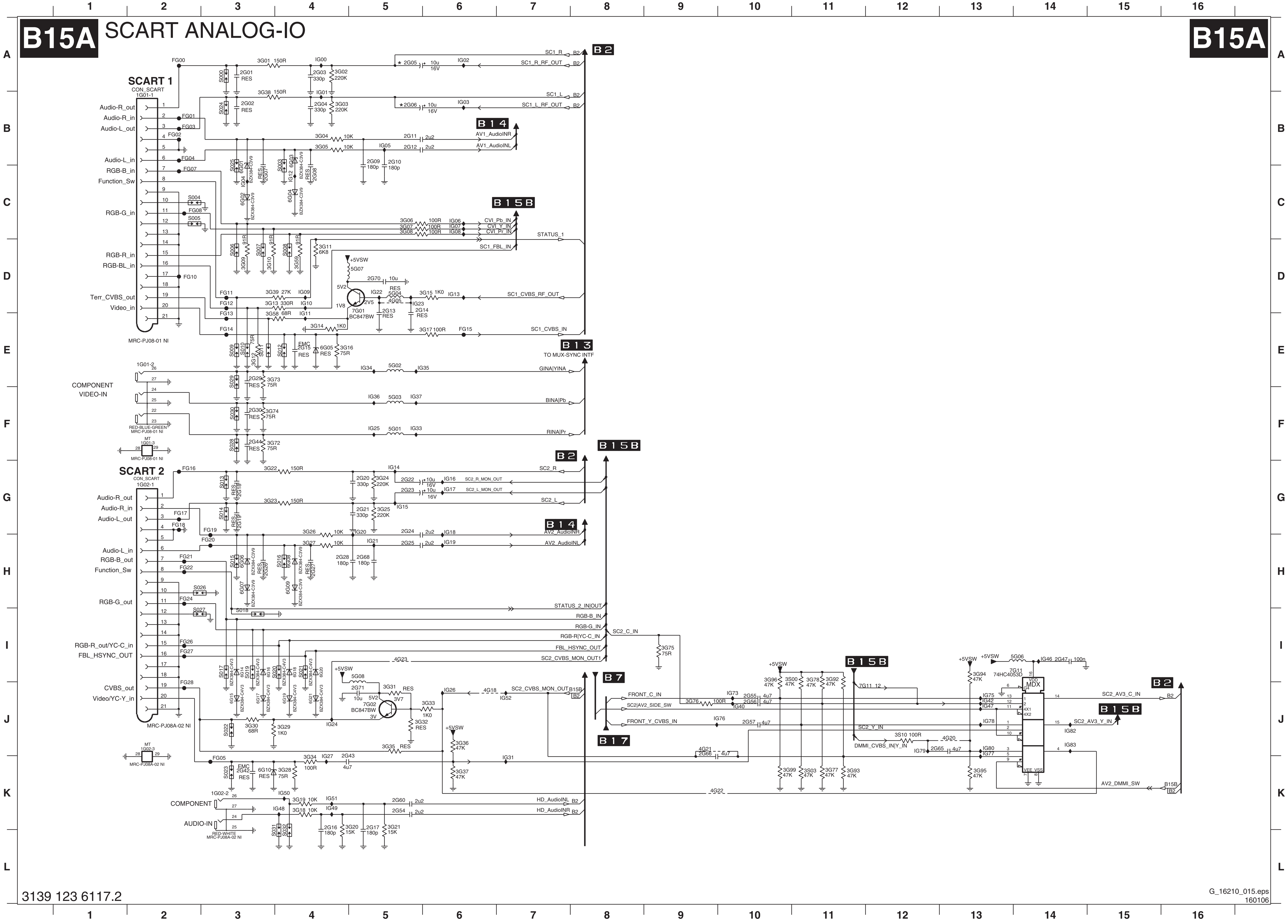
2E00	C3
2E01	C3
2E02	C3
2E03	B5
2E04	B7
2E05	B7
2E06	B7
2E07	C7
2E08	C8
2E09	D7
2E10	C8
2E11	D7
2E12	D8
2E13	D7
2E14	D8
2E15	A11
2E16	B9
2E17	B9
2E18	B9
2E19	B9
2E20	B9
2E21	B10
2E22	B10
2E23	B10
2E24	C11
2E25	C11
2E26	C11
2E27	C11
2E28	D11
2E29	D11
2E30	D11
2E31	E4
2E32	E7
2E33	C2
2E34	C2
2E35	D2
2E36	E11
3E00	A10
3E01	A10
3E02	A10
3E06	C4
3E07	C4
3E08	C4
3E09	D4
3E10	D4
3E11	D4
3E12	C5
3E13	B6
3E14	B6
3E15	B6
3E16	B7
3E17	B7
3E18	B7
3E19	C7
3E20	C7
3E21	D7
3E22	D7
3E23	D8
3E24	C10
3E25	C10
3E26	C10
3E27	C10
3E28	D10
3E29	D10
3E30	D10
3E31	F2
3E32	F2
3E33	F2
3E34	F2
3E35	F5
3E36	F5
3E37	G9
3E38	F7
3E39	F7
3E40	C10
3E41	D10
3E42	D10
3E43	G5
3E46	G7
3E49	G10
3E50	C3
3E51	C3
3E52	C4
3E53	D3
3E54	D3
3E55	D4
3E57	D7
3E58	D9
3E59	D9
3E60	D9
4E03	B7
4E10	E3
4E11	G4
5E00	B5
5E01	B8
5E02	A10
5E03	E4
6E00	F3
6E01	F3
6E02	G3
6E03	G3
7E00	C5
7E01	B9
7E02	A11
7E03	E4
7E04-1	E6
7E04-2	E7
7E04-3	F6
7E04-4	F7
7E04-5	G6
7E04-6	G7
7E05-1	E10
7E05-2	E11
7E05-3	F10
7E05-4	F11
7E05-5	G9
7E05-6	G11
FE00	B2
FE01	B2
FE02	B2
FE03	C6
FE04	C8
FE05	D8
FE06	B9
FE07	E9
FE08	B11
FE10	C10
FE11	C10
FE12	C10
FE13	D10
IE00	B5
IE01	B8
IE02	B8
IE03	D7
IE04	D8
IE05	B10
IE06	B10
IE07	B10
IE08	A11
IE09	F3
IE10	F3
IE11	F3
IE12	F3
IE13	C3
IE14	C3
IE15	C3
IE16	C3
IE17	A10
IE18	D3
IE19	C6
IE20	C8
IE21	D6
IE22	C8
IE23	D8
IE24	F7
IE25	C7
IE26	C7
IE27	F7
IE28	G11
IE29	A10
IE30	A10
IE32	C11
IE33	C11
IE34	C11
IE35	B8
IE36	B8
IE37	B8
IE38	C6
IE39	D7
IE40	F7
IE42	F5
IE43	G10
IE44	G10
IE45	C4
IE46	C11
IE47	B7
IE48	B7
IE49	B7
IE50	C3

SSB: Digital I/O

1F01 A5 2F01 C9 2F04 D9 2F15 A8 3F02 B2 3F05 C6 3F08 C7 3F11 C8 3F14 D6 3F17 D7 3F20 D8 3F26 A7 7F02 D2 FF02 A1 FF05 A1 FF08 A1 FF11 B1 FF14 C1 FF17 C1 FF20 C1 FF23 D1 FF26 D1 IF03 A7 IF06 C6 IF10 D6 IF14 D9 IF18 D2
1F02 A1 2F02 C9 2F13 A7 2F16 A8 3F03 D2 3F06 C6 3F09 C7 3F12 C8 3F15 D7 3F18 D7 3F24 A7 3F27 A7 7F03 C8 FF03 A1 FF06 A1 FF09 B1 FF12 B1 FF15 C1 FF18 C1 FF21 D1 FF24 D1 IF01 A6 IF04 A7 IF08 C6 IF12 D6 IF16 B3 S001 A6
1F03 C1 2F03 C9 2F14 A7 3F01 B2 3F04 D2 3F07 C7 3F10 C7 3F13 D6 3F16 D7 3F19 D8 3F25 A7 7F01 B2 FF01 A1 FF04 A1 FF07 A1 FF10 B1 FF13 B1 FF16 C1 FF19 C1 FF22 D1 FF25 D1 IF02 A6 IF05 C6 IF09 D6 IF13 C9 IF17 B2 S002 B6

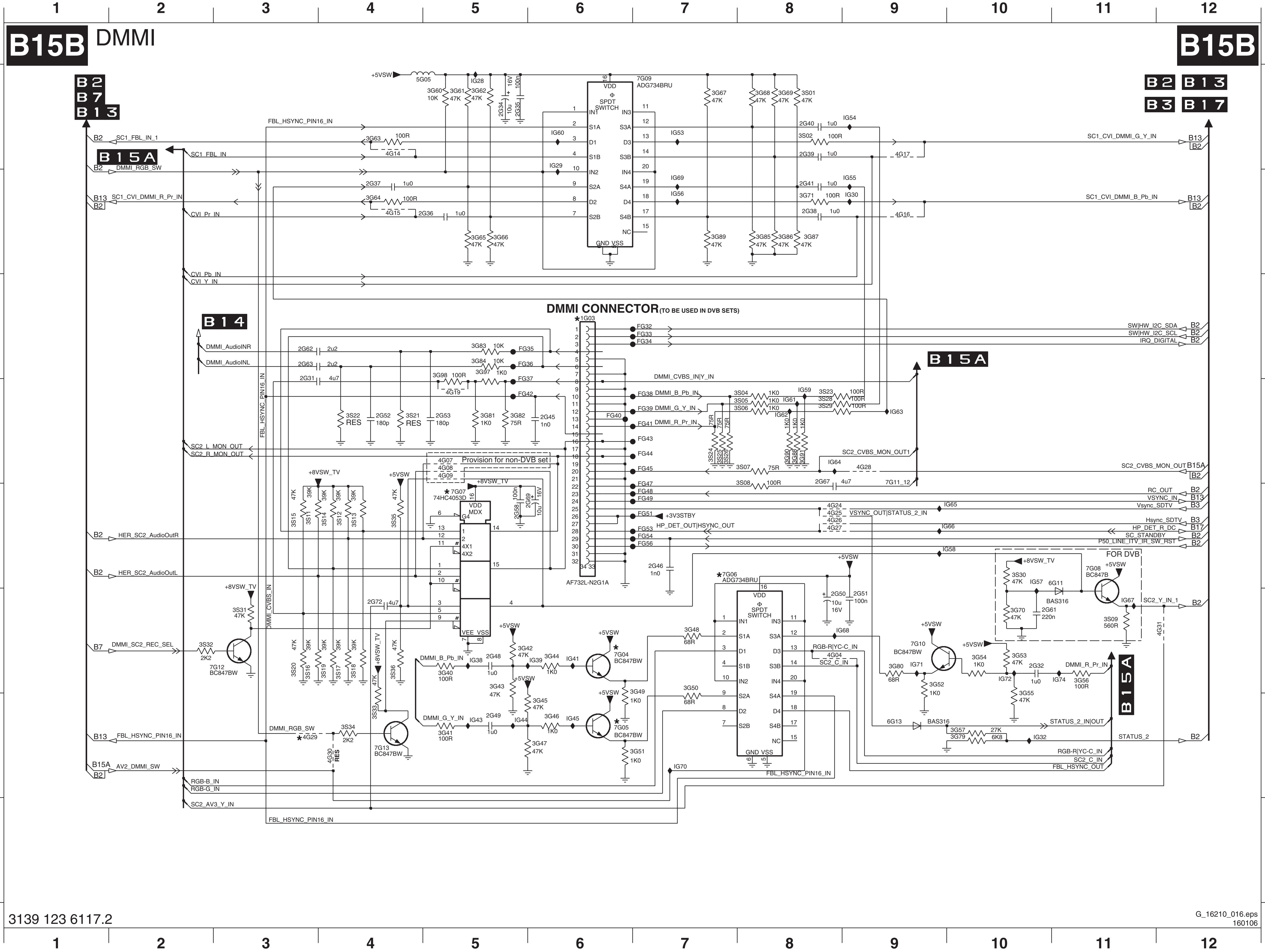

B14 DIGITAL IO
B14
B12 TO HDMI
B7 TO SCALER
B2 To HERCULES
B17 FROM SIDE-IO
FROM/TO SCART-IO
B15A/B
AUDIO-IN (DVI-D)
1F01
MSD-242V-01 NIDIP
HDMI CONNECTOR-1
HDMI CONNECTOR-2
1F02 DC1R019JDA
1F03 DC1R019JDA
CEC
RX2+A RX2-A RX1+A RX1-A RX0+A RX0-A RXC+A RXC-A
DOC_SCLA DOC_SDAA +5VHDMI_A
RX2+B RX2-B RX1+B RX1-B RX0+B RX0-B RXC+B RXC-B
DOC_SCLB DOC_SDAB +5VHDMI_B
3F01 1K0
3F02 2K2
3F03 1K0
3F04 2K2
7F01 BC847BW
7F02 BC847BW
HDMI_HOTPLUG_RESET
3F24 10K
3F25 10K
2F15 2u2
2F16 2u2
2F14 180p
2F13 180p
3F27 15K
3F26 15K
S001
S002
DVI_D_AudioINL
DVI_D_AudioINR
+5VSW
3F05 … 3F20 33K
7F03 74HC4052D
MDX
VDD
VEE VSS
4X
G4
2F01 10u 16V
2F02 100n
Analog_AudioSEL2
Analog_AudioSEL1
AV1_AudioINR B15A
DMMI_AudioINR B15B
AV2_AudioINR B15A
SIDE_AudioINR
AV1_AudioINL B15A
DMMI_AudioINL B15B
AV2_AudioINL B15A
SIDE_AudioINL
2F03 4u7
2F04 4u7
Analog_AudioINR
Analog_AudioINL
3139 123 6117.2
G_16210_014.eps
160106

SSB: SCART Analog I/O


B15A
SCART ANALOG-IO
SCART 1
CON_SCART
1G01-1
Audio-R_out
Audio-R_in
Audio-L_out
Audio-L_in
RGB-B_in
Function_Sw
RGB-G_in
RGB-R_in
RGB-BL_in
Terr_CVBS_out
Video_in
MRC-PJ08-01 NI
COMPONENT
VIDEO-IN
RED-BLUE-GREEN
SCART 2
CON_SCART
1G02-1
Audio-R_out
Audio-R_in
Audio-L_out
Audio-L_in
RGB-B_out
Function_Sw
RGB-G_out
RGB-R_out/YC-C_in
FBL_HSYNC_OUT
CVBS_out
Video/YC-Y_in
MRC-PJ08A-02 NI
COMPONENT
AUDIO-IN
RED-WHITE
B2
B14
B15B
B13
B7
B17
SC1_R
SC1_R_RF_OUT
SC1_L
SC1_L_RF_OUT
AV1_AudioINR
AV1_AudioINL
CVI_Pb_IN
CVI_Y_IN
CVI_Pr_IN
STATUS_1
SC1_FBL_IN
SC1_CVBS_RF_OUT
SC1_CVBS_IN
TO MUX-SYNC INTF
GINA|YINA
BINA|Pb
RINA|Pr
SC2_R
SC2_R_MON_OUT
SC2_L_MON_OUT
SC2_L
AV2_AudioINR
AV2_AudioINL
STATUS_2_IN|OUT
RGB-B_IN
RGB-G_IN
RGB-R|YC-C_IN
FBL_HSYNC_OUT
SC2_CVBS_MON_OUT1
SC2_C_IN
SC2_CVBS_MON_OUT
FRONT_C_IN
SC2|AV2_SIDE_SW
FRONT_Y_CVBS_IN
SC2_Y_IN
DMMI_CVBS_IN|Y_IN
SC2_AV3_C_IN
SC2_AV3_Y_IN
AV2_DMMI_SW
HD_AudioINL
HD_AudioINR
7G01 BC847BW
7G02 BC847BW
7G11 74HC4053D
MDX
+5VSW
3139 123 6117.2
G_16210_015.eps
160106

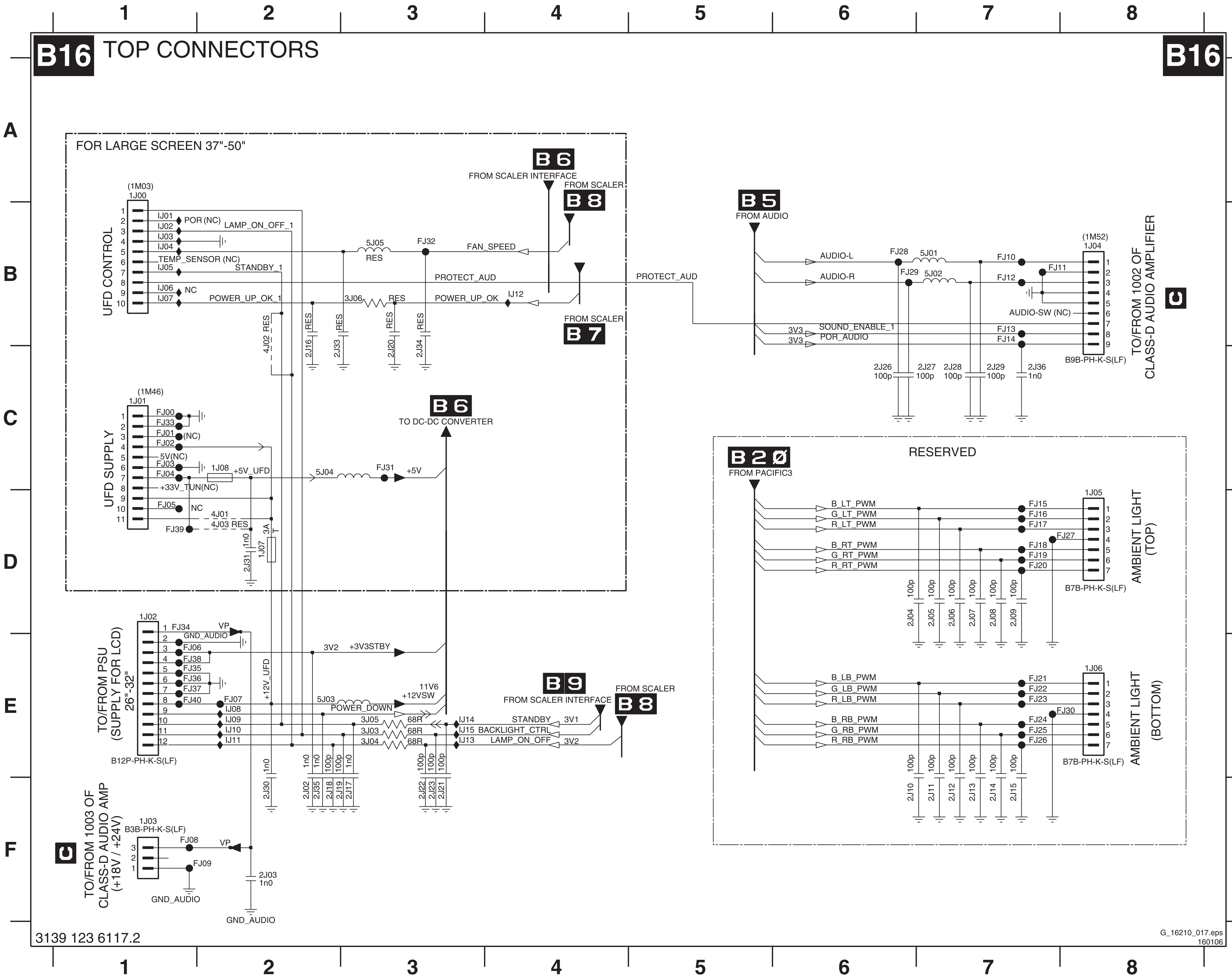
1G01-1 B2	FG01 B2
1G01-2 E2	FG02 B2
1G01-3 F2	FG03 B2
1G02-1 G2	FG04 B2
1G02-2 K3	FG05 K3
1G02-3 J2	FG07 C2
2G01 A3	FG08 C2
2G02 B3	FG10 D2
2G03 A4	FG11 D3
2G04 B4	FG12 D3
2G05 A5	FG13 E3
2G06 B5	FG14 E3
2G07 C3	FG15 E6
2G08 C4	FG16 G2
2G09 B5	FG17 G2
2G10 B5	FG18 G2
2G11 B5	FG19 G3
2G12 B5	FG20 H3
2G13 D5	FG21 H2
2G14 D5	FG22 H2
2G15 E4	FG24 H2
2G16 K4	FG26 I2
2G17 K5	FG27 I2
2G18 G3	FG28 J2
2G19 G3	IG00 A4
2G20 G5	IG01 B4
2G21 G5	IG02 A6
2G22 G5	IG03 B6
2G23 G5	IG04 C3
2G24 G5	IG05 B5
2G25 H5	IG06 C6
2G26 H3	IG07 C6
2G27 H4	IG08 C6
2G28 H5	IG09 D4
2G29 E3	IG10 D4
2G30 F3	IG11 E4
2G42 K3	IG12 C4
2G43 K4	IG13 D6
2G44 F3	IG14 G5
2G47 I14	IG15 G5
2G54 K5	IG16 G6
2G55 J10	IG17 G6
2G56 J10	IG18 G6
2G57 J10	IG19 H6
2G60 K5	IG20 G5
2G65 J12	IG21 H5
2G66 J9	IG22 D5
2G68 H5	IG23 D5
2G70 D5	IG24 J4
2G71 J5	IG25 F5
3G01 A3	IG26 J6
3G02 A4	IG27 K4
3G03 B4	IG31 K7
3G04 B4	IG33 F5
3G05 B4	IG34 E5
3G06 C5	IG35 E6
3G07 C5	IG36 F5
3G08 C5	IG37 F5
3G09 D3	IG40 J10
3G10 D3	IG42 J13
3G11 D4	IG46 I14
3G12 E3	IG47 J13
3G13 D3	IG48 K4
3G14 E4	IG49 K4
3G15 D5	IG50 K4
3G16 E4	IG51 K4
3G17 E5	IG52 J7
3G18 K4	IG73 J10
3G19 K4	IG75 J13
3G20 K4	IG76 J9
3G21 K5	IG77 J13
3G22 G3	IG78 J13
3G23 G3	IG79 J12
3G24 G5	IG80 J13
3G25 G5	IG82 J14
3G26 G4	IG83 J14
3G27 H4	S000 A3
3G28 K4	S003 C4
3G29 J4	S004 C2
3G30 J3	S005 C2
3G31 J5	S006 D3
3G32 J5	S007 D3
3G33 J5	S008 D4
3G34 K4	S009 E3
3G35 J5	S010 E3
3G36 J6	S011 E3
3G37 K6	S012 E4
3G38 B3	S013 G3
3G39 D3	S014 G3
3G58 E3	S015 H3
3G59 D4	S016 H4
3G72 F3	S017 I3
3G73 E3	S018 I3
3G74 F3	S019 I3
3G75 I9	S020 I4
3G76 J9	S021 I4
3G77 K11	S022 J3
3G78 I11	S023 K3
3G92 I11	S024 B3
3G93 K11	S025 C3
3G94 I13	S026 H2
3G95 K13	S027 I2
3G96 I10	S028 F3
3G99 K11	S029 F3
3S00 I10	S030 F3
3S03 K11	S031 L4
3S10 J12	S032 L4
4G05 D5	
4G18 J6	
4G20 J13	
4G21 J9	
4G22 K9	
4G23 I5	
5G01 F5	
5G02 E5	
5G03 F5	
5G04 D5	
5G06 I14	
5G07 D5	
5G08 I5	
6G01 C3	
6G02 C3	
6G03 B4	
6G04 C4	
6G05 E4	
6G06 H3	
6G07 H3	
6G08 H4	
6G09 H4	
6G10 K3	
6G14 I3	
6G15 J3	
6G16 I3	
6G17 J3	
6G18 I4	
6G19 J4	
6G20 I4	
6G21 J4	
7G01 D5	
7G02 J5	
7G11 I14	
FG00 A2	

SSB: DMMI


B15B
DMMI
B15B
B2
B7
B13
B15A
B14
B2 B13
B3 B17
DMMI CONNECTOR(TO BE USED IN DVB SETS)
1G03
AF732L-N2G1A
7G09
ADG734BRU
VDD
SPDT SWITCH
GND VSS
7G06
ADG734BRU
7G07
74HC4053D
MDX
Provision for non-DVB set
FOR DVB
7G08 BC847B
7G10 BC847BW
7G04 BC847BW
7G05 BC847BW
7G12 BC847BW
7G13 BC847BW
+5VSW
+8VSW_TV
+3V3STBY
5G05
FBL_HSYNC_PIN16_IN
SC1_FBL_IN_1
SC1_FBL_IN
DMMI_RGB_SW
SC1_CVI_DMMI_R_Pr_IN
CVI_Pr_IN
CVI_Pb_IN
CVI_Y_IN
SC1_CVI_DMMI_G_Y_IN
SC1_CVI_DMMI_B_Pb_IN
DMMI_AudioINR
DMMI_AudioINL
DMMI_CVBS_IN|Y_IN
DMMI_B_Pb_IN
DMMI_G_Y_IN
DMMI_R_Pr_IN
SC2_L_MON_OUT
SC2_R_MON_OUT
SC2_CVBS_MON_OUT1
SC2_CVBS_MON_OUT
SW|HW_I2C_SDA
SW|HW_I2C_SCL
IRQ_DIGITAL
RC_OUT
VSYNC_IN
Vsync_SDTV
VSYNC_OUT|STATUS_2_IN
Hsync_SDTV
HP_DET_R_DC
HP_DET_OUT|HSYNC_OUT
SC_STANDBY
P50_LINE_ITV_IR_SW_RST
HER_SC2_AudioOutR
HER_SC2_AudioOutL
DMMI_SC2_REC_SEL
FBL_HSYNC_PIN16_IN
AV2_DMMI_SW
RGB-B_IN
RGB-G_IN
SC2_AV3_Y_IN
SC2_Y_IN_1
RGB-R|YC-C_IN
SC2_C_IN
STATUS_2_IN|OUT
STATUS_2
FBL_HSYNC_OUT
3139 123 6117.2
G_16210_016.eps
160106

1G03	C6
2G31	D3
2G32	F10
2G34	A5
2G35	A5
2G36	B4
2G37	B4
2G38	B8
2G39	A8
2G40	A8
2G41	B8
2G45	D6
2G46	E7
2G48	F5
2G49	G5
2G50	F9
2G51	F9
2G52	D4
2G53	D5
2G58	E5
2G61	F10
2G62	C3
2G63	C3
2G67	E8
2G69	E6
2G72	F4
3G40	F5
3G41	G5
3G42	F5
3G43	F5
3G44	F6
3G45	G6
3G46	G6
3G47	G6
3G48	F7
3G49	G6
3G50	F7
3G51	G6
3G52	F9
3G53	F10
3G54	F10
3G55	G10
3G56	F11
3G57	G10
3G60	A5
3G61	A5
3G62	A5
3G63	A4
3G64	B4
3G65	B5
3G66	B5
3G67	A7
3G68	A8
3G69	A8
3G70	F10
3G71	B8
3G79	G10
3G80	F9
3G81	D5
3G82	D5
3G83	C5
3G84	C5
3G85	B8
3G86	B8
3G87	B8
3G88	D8
3G89	B7
3G90	D8
3G91	D8
3G97	C5
3G98	C5
3S01	A8
3S02	A8
3S04	D8
3S05	D8
3S06	D8
3S07	D8
3S08	E8
3S09	F11
3S11	E3
3S12	E4
3S13	E4
3S14	E4
3S15	E3
3S16	F3
3S17	F4
3S18	F4
3S19	F4
3S20	F3
3S21	D4
3S22	D4
3S23	D8
3S24	D7
3S25	D7
3S26	D7
3S28	D8
3S29	D8
3S30	E10
3S31	F3
3S32	F2
3S33	G4
3S34	G4
3S35	E4
3S36	F4
4G04	F8
4G07	D5
4G08	D5
4G09	D5
4G14	A4
4G15	B4
4G16	B9
4G17	A9
4G19	D5
4G24	E8
4G25	E8
4G26	E8
4G27	E8
4G28	D9
4G29	G3
4G30	G4
4G31	F12
5G05	A4
6G11	E10
6G13	G9
7G04	F6
7G05	G6
7G06	E7
7G07	E5
7G08	E11
7G09	A7
7G10	F9
7G12	F2
7G13	G4
FG32	C7
FG33	C7
FG34	C7
FG35	C5
FG36	C5
FG37	D5
FG38	D7
FG39	D7
FG40	D6
FG41	D7
FG42	D5
FG43	D7
FG44	D7
FG45	D7
FG47	E7
FG48	E7
FG49	E7
FG51	E7
FG53	E7
FG54	E7
FG56	E7
IG28	A5
IG29	A6
IG30	B9
IG32	G10
IG38	F5
IG39	F6
IG41	F6
IG43	G5
IG44	G5
IG45	G6
IG53	A7
IG54	A9
IG55	B9
IG56	B7
IG57	E10
IG58	E10
IG59	D8
IG60	A6
IG61	D8
IG62	D8
IG63	D9
IG64	D8
IG65	E10
IG66	E10
IG67	F11
IG68	F9
IG69	B7
IG70	G7
IG71	F9
IG72	F10
IG74	F11

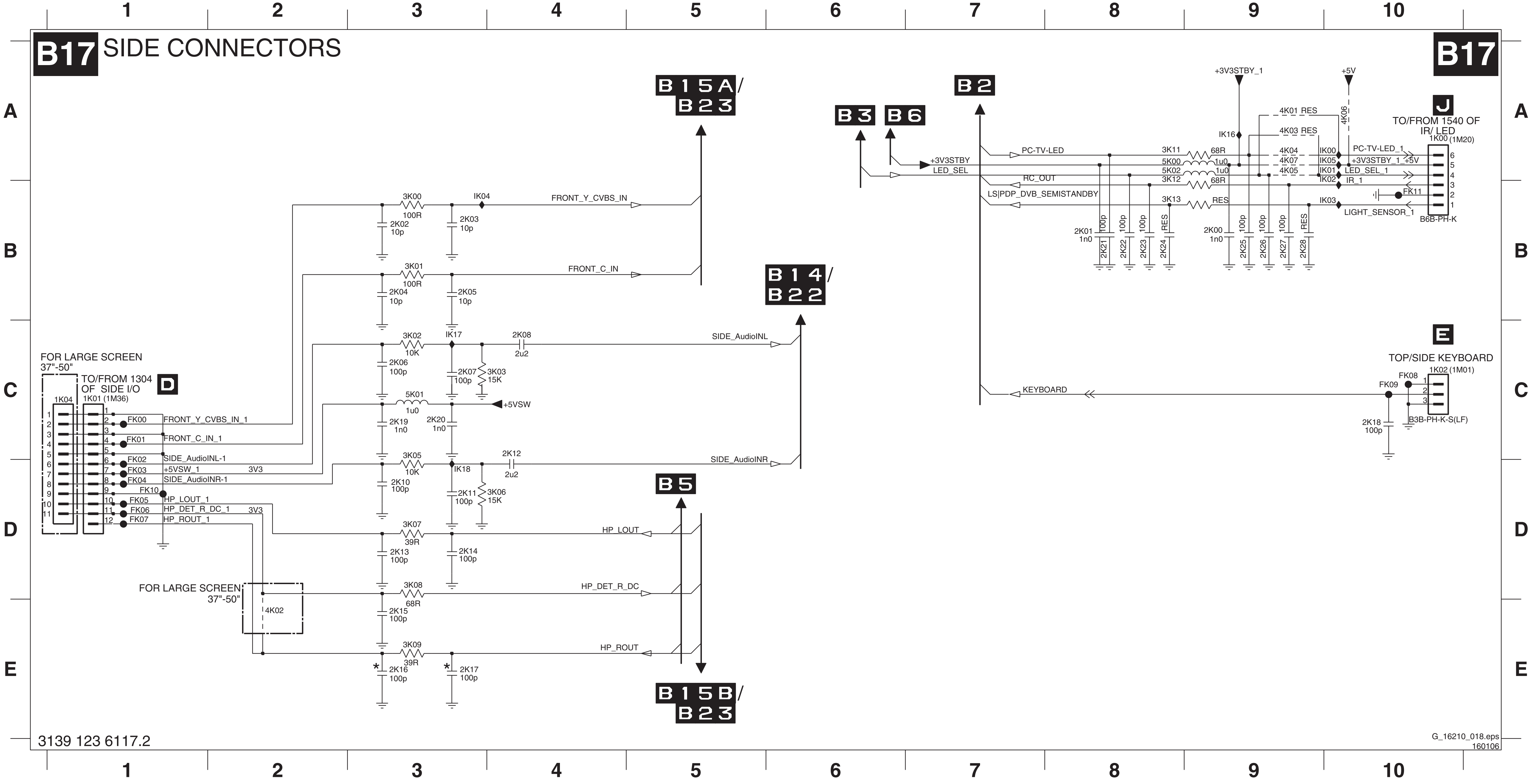
SSB: Top Connectors


B16
TOP CONNECTORS
B16
1 2 3 4 5 6 7 8
A B C D E F
FOR LARGE SCREEN 37"-50"
(1M03)
1J00
UFD CONTROL
IJ01 POR (NC)
IJ02 LAMP_ON_OFF_1
IJ03
IJ04
TEMP_SENSOR (NC)
IJ05 STANDBY_1
IJ06 NC
IJ07 POWER_UP_OK_1
5J05 RES
FJ32
FAN_SPEED
PROTECT_AUD
3J06 RES
POWER_UP_OK
IJ12
B6
FROM SCALER INTERFACE
B8
FROM SCALER
B7
FROM SCALER
4J02 RES
2J16 RES
2J33 RES
2J20 RES
2J34 RES
(1M46)
1J01
UFD SUPPLY
FJ00
FJ33
FJ01 (NC)
FJ02
5V(NC)
FJ03
1J08
FJ04 +5V_UFD
+33V_TUN(NC)
FJ05 NC
4J01
FJ39 4J03 RES
2J31 1n0
1J07 3A T
5J04
FJ31 +5V
B6
TO DC-DC CONVERTER
B5
FROM AUDIO
PROTECT_AUD
AUDIO-L
AUDIO-R
FJ28 5J01
FJ29 5J02
FJ10
FJ12
FJ11
AUDIO-SW (NC)
3V3 SOUND_ENABLE_1
3V3 POR_AUDIO
FJ13
FJ14
2J26 100p
2J27 100p
2J28 100p
2J29 100p
2J36 1n0
(1M52)
1J04
B9B-PH-K-S(LF)
TO/FROM 1002 OF CLASS-D AUDIO AMPLIFIER
C
B20
FROM PACIFIC3
RESERVED
B_LT_PWM
G_LT_PWM
R_LT_PWM
B_RT_PWM
G_RT_PWM
R_RT_PWM
FJ15 FJ16 FJ17 FJ27 FJ18 FJ19 FJ20
1J05
B7B-PH-K-S(LF)
AMBIENT LIGHT (TOP)
2J04 100p
2J05 100p
2J06 100p
2J07 100p
2J08 100p
2J09 100p
B_LB_PWM
G_LB_PWM
R_LB_PWM
B_RB_PWM
G_RB_PWM
R_RB_PWM
FJ21 FJ22 FJ23 FJ30 FJ24 FJ25 FJ26
1J06
B7B-PH-K-S(LF)
AMBIENT LIGHT (BOTTOM)
2J10 100p
2J11 100p
2J12 100p
2J13 100p
2J14 100p
2J15 100p
1J02
TO/FROM PSU (SUPPLY FOR LCD) 26"-32"
FJ34 VP
GND_AUDIO
FJ06
FJ38
FJ35
FJ36
FJ37
FJ40 FJ07
IJ08
IJ09
IJ10
IJ11
B12P-PH-K-S(LF)
+12V_UFD
3V2 +3V3STBY
5J03 11V6 +12VSW
POWER_DOWN
3J05 68R
3J03 68R
3J04 68R
IJ14 STANDBY 3V1
IJ15 BACKLIGHT_CTRL
IJ13 LAMP_ON_OFF 3V2
B9
FROM SCALER INTERFACE
B8
FROM SCALER
2J30 1n0
2J02 1n0
2J35 1n0
2J18 100p
2J19 100p
2J17 1n0
2J22 100p
2J23 100p
2J21 100p
TO/FROM 1003 OF CLASS-D AUDIO AMP (+18V / +24V)
C
1J03
B3B-PH-K-S(LF)
FJ08 VP
FJ09
GND_AUDIO
2J03 1n0
GND_AUDIO
3139 123 6117.2
G_16210_017.eps
160106

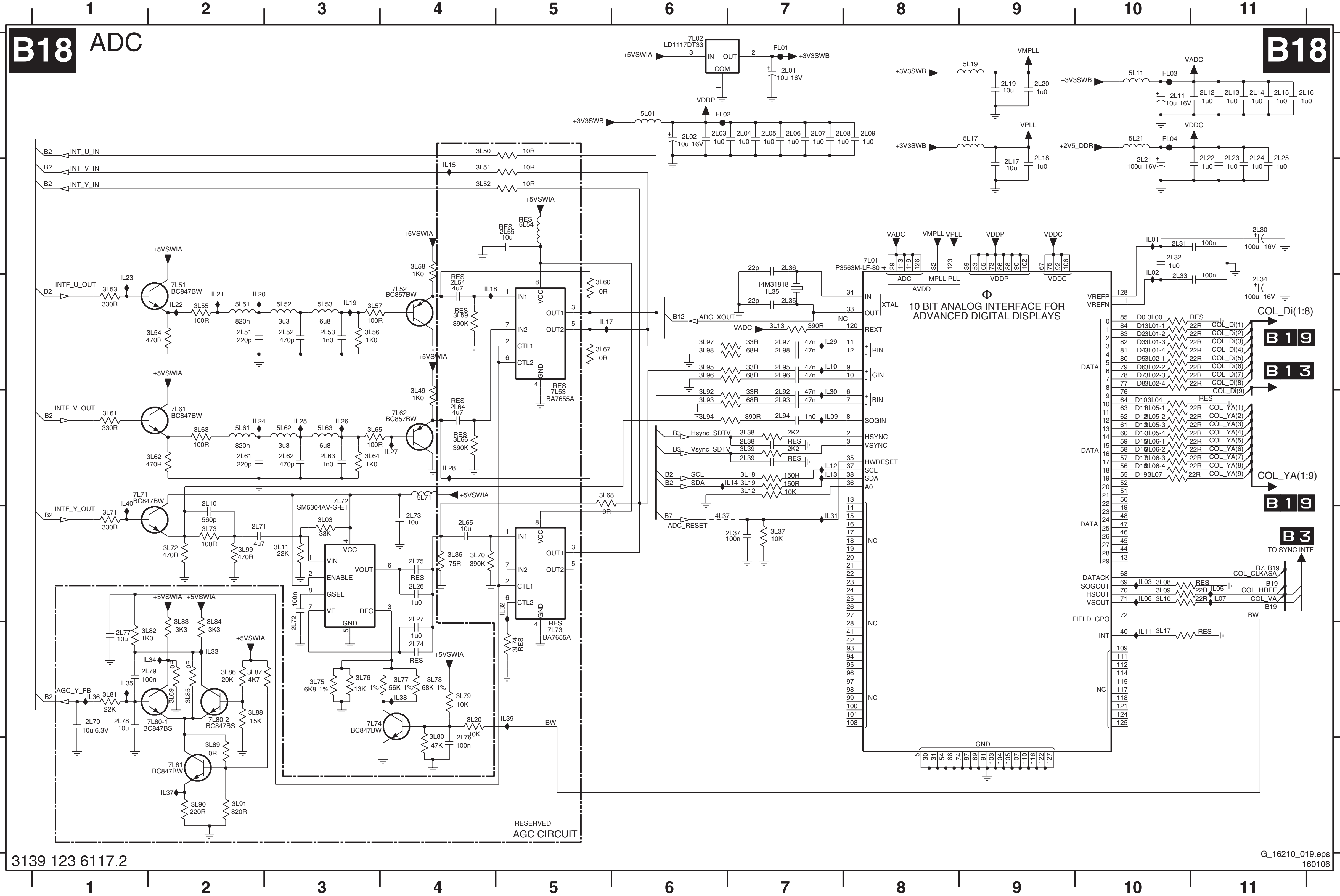
1J00	A1
1J01	C1
1J02	D1
1J03	F1
1J04	B8
1J05	D8
1J06	E8
1J07	D2
1J08	C2
2J02	F2
2J03	F2
2J04	D6
2J05	D7
2J06	D7
2J07	D7
2J08	D7
2J09	D7
2J10	F6
2J11	F7
2J12	F7
2J13	F7
2J14	F7
2J15	F7
2J16	C2
2J17	F3
2J18	F2
2J19	F3
2J20	C3
2J21	F3
2J22	F3
2J23	F3
2J26	C6
2J27	C7
2J28	C7
2J29	C7
2J30	F2
2J31	D2
2J33	C2
2J34	C3
2J35	F2
2J36	C7
3J03	E3
3J04	E3
3J05	E3
3J06	B3
4J01	D2
4J02	B2
4J03	D2
5J01	B7
5J02	B7
5J03	E2
5J04	C2
5J05	B3
FJ00	C1
FJ01	C1
FJ02	C1
FJ03	C1
FJ04	C1
FJ05	D1
FJ06	E1
FJ07	E2
FJ08	F1
FJ09	F2
FJ10	B7
FJ11	B7
FJ12	B7
FJ13	B7
FJ14	B7
FJ15	D7
FJ16	D7
FJ17	D7
FJ18	D7
FJ19	D7
FJ20	D7
FJ21	E7
FJ22	E7
FJ23	E7
FJ24	E7
FJ25	E7
FJ26	E7
FJ27	D8
FJ28	B6
FJ29	B6
FJ30	E8
FJ31	C3
FJ32	B3
FJ33	C1
FJ34	D1
FJ35	E1
FJ36	E1
FJ37	E1
FJ38	E1
FJ39	D1
FJ40	E1
IJ01	B1
IJ02	B1
IJ03	B1
IJ04	B1
IJ05	B1
IJ06	B1
IJ07	B1
IJ08	E2
IJ09	E2
IJ10	E2
IJ11	E2
IJ12	B4
IJ13	E3
IJ14	E3
IJ15	E3

SSB: Side Connectors

1K00	A10
1K01	C1
1K02	C10
1K04	C1
2K00	B9
2K01	B8
2K02	B3
2K03	B3
2K04	B3
2K05	B3
2K06	C3
2K07	C3
2K08	C4
2K10	D3
2K11	D3
2K12	C4
2K13	D3
2K14	D3
2K15	E3
2K16	E3
2K17	E3
2K18	C10
2K19	C3
2K20	C3
2K21	B8
2K22	B8
2K23	B8
2K24	B8
2K25	B9
2K26	B9
2K27	B9
2K28	B9
3K00	B3
3K01	B3
3K02	C3
3K03	C4
3K05	C3
3K06	D4
3K07	D3
3K08	D3
3K09	E3
3K11	A8
3K12	B8
3K13	B8
4K01	A9
4K02	E2
4K03	A9
4K04	A9
4K05	A9
4K06	A10
4K07	A9
5K00	A8
5K01	C3
5K02	A8
FK00	C1
FK01	C1
FK02	D1
FK03	D1
FK04	D1
FK05	D1
FK06	D1
FK07	D1
FK08	C10
FK09	C10
FK10	D1
FK11	B10
IK00	A10
IK01	A10
IK02	A10
IK03	B10
IK04	B3
IK05	A10
IK16	A9
IK17	C3
IK18	D3

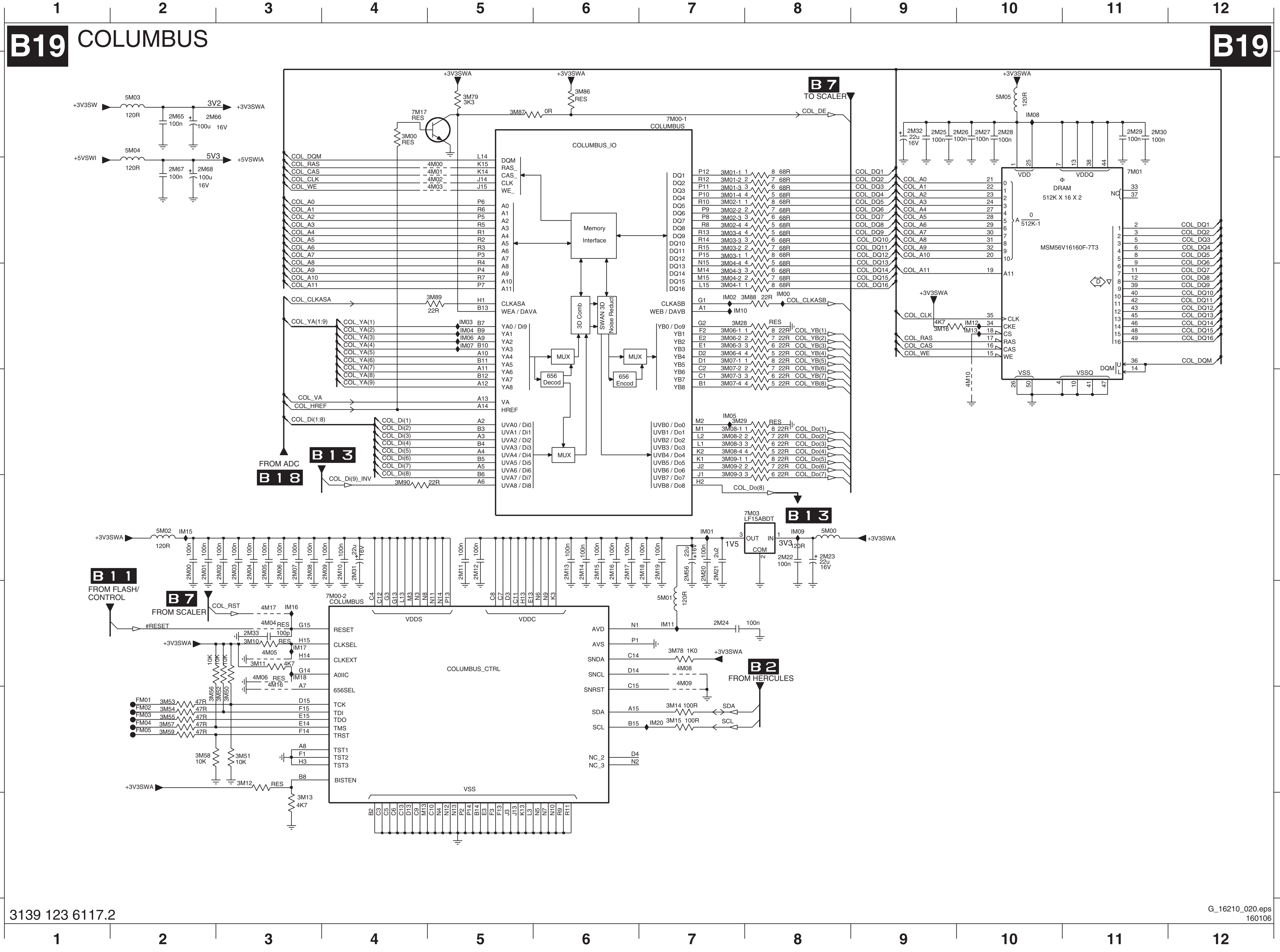

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
B17
SIDE CONNECTORS
B17
B15A/
B23
B3
B6
B2
+3V3STBY_1
+5V
4K01 RES
4K03 RES
4K06
J
TO/FROM 1540 OF
IR/ LED
1K00 (1M20)
IK16
PC-TV-LED
3K11 68R
4K04
IK00
PC-TV-LED_1
+3V3STBY
5K00 1u0
4K07
IK05
+3V3STBY_1
LED_SEL
5K02 1u0
4K05
IK01
LED_SEL_1
RC_OUT
3K12 68R
IK02
IR_1
FK11
LS|PDP_DVB_SEMISTANDBY
3K13 RES
IK03
LIGHT_SENSOR_1
B6B-PH-K
2K01 1n0
2K21 100p
2K22 100p
2K23 100p
2K24 RES
2K00 1n0
2K25 100p
2K26 100p
2K27 100p
2K28 RES
3K00 100R
IK04
FRONT_Y_CVBS_IN
2K02 10p
2K03 10p
3K01 100R
FRONT_C_IN
2K04 10p
2K05 10p
B14/
B22
3K02 10K
IK17
2K08 2u2
SIDE_AudioINL
2K06 100p
2K07 100p
3K03 15K
E
TOP/SIDE KEYBOARD
1K02 (1M01)
FK08
FK09
KEYBOARD
2K18 100p
B3B-PH-K-S(LF)
FOR LARGE SCREEN
37"-50"
TO/FROM 1304
OF SIDE I/O
D
1K04
1K01 (1M36)
5K01 1u0
+5VSW
2K19 1n0
2K20 1n0
FK00 FRONT_Y_CVBS_IN_1
FK01 FRONT_C_IN_1
FK02 SIDE_AudioINL-1
FK03 +5VSW_1 3V3
FK04 SIDE_AudioINR-1
FK10
FK05 HP_LOUT_1
FK06 HP_DET_R_DC_1 3V3
FK07 HP_ROUT_1
3K05 10K
IK18
2K12 2u2
SIDE_AudioINR
2K10 100p
2K11 100p
3K06 15K
B5
3K07 39R
HP_LOUT
2K13 100p
2K14 100p
FOR LARGE SCREEN
37"-50"
4K02
3K08 68R
HP_DET_R_DC
2K15 100p
3K09 39R
HP_ROUT
2K16 100p
2K17 100p
B15B/
B23
3139 123 6117.2
G_16210_018.eps
160106

SSB: ADC


B18
ADC
B18
1 2 3 4 5 6 7 8 9 10 11
A B C D E F G
7L02 LD1117DT33
+5VSWIA
+3V3SWB
FL01
FL02
FL03
FL04
VDDP
VMPLL
VPLL
VADC
VDDC
+2V5_DDR
5L01
5L11
5L17
5L19
5L21
INT_U_IN
INT_V_IN
INT_Y_IN
INTF_U_OUT
INTF_V_OUT
INTF_Y_OUT
AGC_Y_FB
7L51 BC847BW
7L52 BC857BW
7L61 BC847BW
7L62 BC857BW
7L71 BC847BW
7L53 BA7655A
7L73 BA7655A
7L72 SM5304AV-G-ET
7L74 BC847BW
7L80-1 BC847BS
7L80-2 BC847BS
7L81 BC847BW
7L01 P3563M-LF-80
14M31818 1L35
10 BIT ANALOG INTERFACE FOR ADVANCED DIGITAL DISPLAYS
ADC_XOUT
Hsync_SDTV
Vsync_SDTV
SCL
SDA
ADC_RESET
COL_Di(1:8)
COL_YA(1:9)
B19
B13
B19
B3
TO SYNC INTF
COL_CLKASA
COL_HREF
COL_VA
BW
RESERVED
AGC CIRCUIT
3139 123 6117.2
G_16210_019.eps
160106

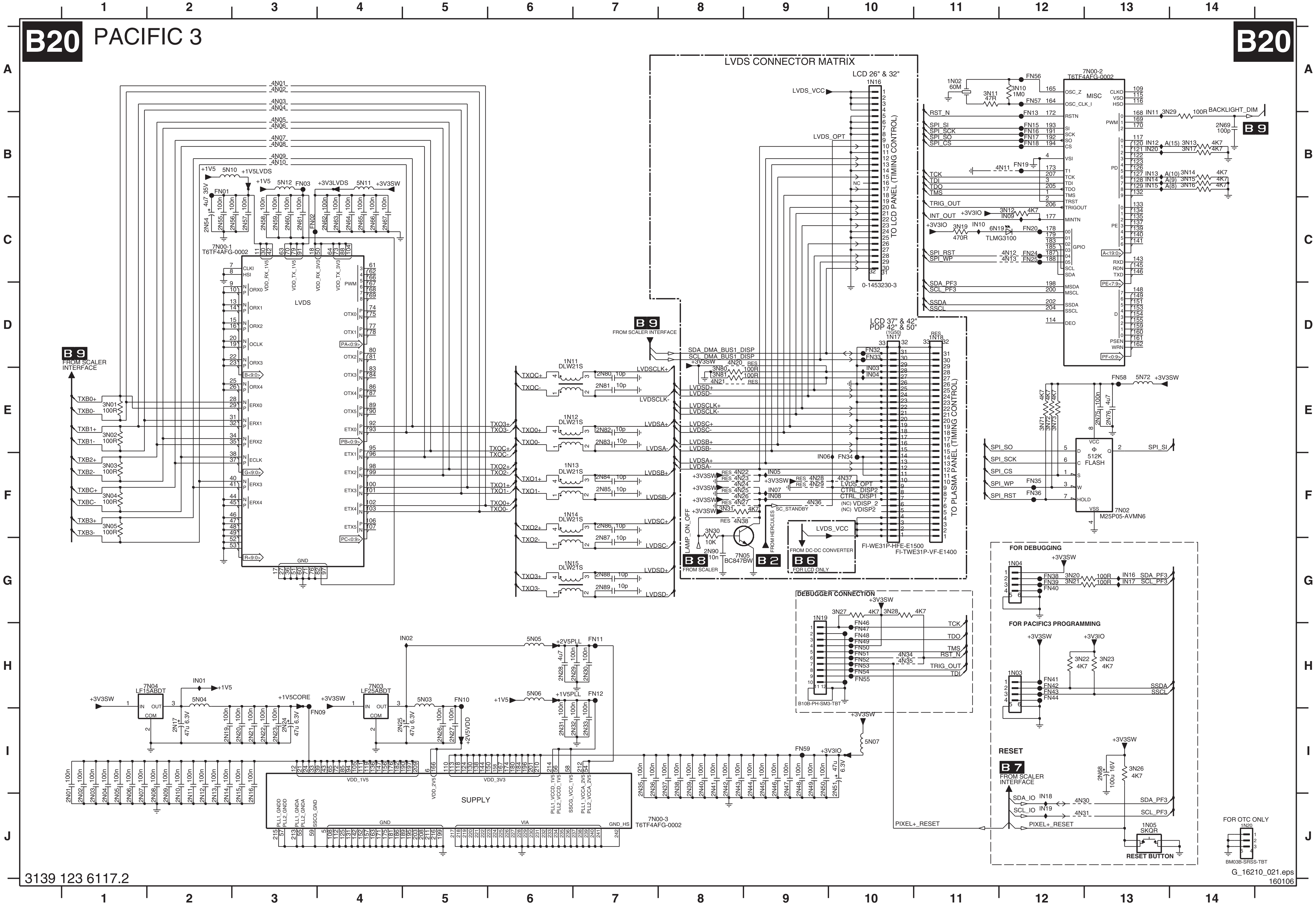
1L35	C7
2L01	A7
2L02	A6
2L03	A6
2L04	A7
2L05	A7
2L06	A7
2L07	A7
2L08	A7
2L09	A8
2L10	D2
2L11	A10
2L12	A11
2L13	A11
2L14	A11
2L15	A11
2L16	A11
2L17	B9
2L18	A9
2L19	A9
2L20	A9
2L21	A10
2L22	A11
2L23	A11
2L24	A11
2L25	A11
2L26	E4
2L27	E4
2L30	B11
2L31	B10
2L32	B10
2L33	C10
2L34	C11
2L35	C7
2L36	B7
2L37	E7
2L38	D7
2L39	D7
2L51	C2
2L52	C3
2L53	C3
2L54	C4
2L55	B5
2L61	D2
2L62	D3
2L63	D3
2L64	D4
2L65	E4
2L70	F1
2L71	E2
2L72	F3
2L73	E4
2L74	F4
2L75	E4
2L76	F4
2L77	F1
2L78	F1
2L79	F2
2L92	D7
2L93	D7
2L94	D7
2L95	C7
2L96	C7
2L97	C7
2L98	C7
3L00	C10
3L01-1	C10
3L01-2	C10
3L01-3	C10
3L01-4	C10
3L02-1	C10
3L02-2	C10
3L02-3	C10
3L02-4	C10
3L03	E3
3L04	D10
3L05-1	D10
3L05-2	D10
3L05-3	D10
3L05-4	D10
3L06-1	D10
3L06-2	D10
3L06-3	D10
3L06-4	D10
3L07	D10
3L08	E10
3L09	E10
3L10	E10
3L11	E3
3L12	D7
3L13	C7
3L17	F10
3L18	D7
3L19	D7
3L20	F4
3L36	E4
3L37	E7
3L38	D7
3L39	D7
3L49	C4
3L50	A4
3L51	B4
3L52	B4
3L53	C1
3L54	C2
3L55	C2
3L56	C3
3L57	C3
3L58	B4
3L59	C4
3L60	C5
3L61	D1
3L62	D2
3L63	D2
3L64	D3
3L65	D3
3L66	D4
3L67	C5
3L68	D5
3L69	F2
3L70	E4
3L71	E1
3L72	E2
3L73	E2
3L74	F5
3L75	F3
3L76	F3
3L77	F4
3L78	F4
3L79	F4
3L80	F4
3L81	F1
3L82	F2
3L83	E2
3L84	E2
3L85	F2
3L86	F2
3L87	F2
3L88	F2
3L89	G2
3L90	G2
3L91	G2
3L92	D6
3L93	D6
3L94	D6
3L95	C6
3L96	C6
3L97	C6
3L98	C6
3L99	E2
4L37	E6
5L01	A6
5L11	A10
5L17	A9
5L19	A9
5L21	A10
5L51	C2
5L52	C3
5L53	C3
5L54	B5
5L61	D2
5L62	D3
5L63	D3
5L71	D4
7L01	B8
7L02	A6
7L51	C2
7L52	C4
7L53	D5
7L61	D2
7L62	D4
7L71	D1
7L72	D3
7L73	F5
7L74	F4
7L80-1	F1
7L80-2	F2
7L81	G2
FL01	A7
FL02	A6
FL03	A10
FL04	A10
IL01	B10
IL02	B10
IL03	E10
IL05	E11
IL06	E10
IL07	E11
IL09	D7
IL10	C7
IL11	F10
IL12	D7
IL13	D7
IL14	D7
IL15	B4
IL17	C5
IL18	C4
IL19	C3
IL20	C2
IL21	C2
IL22	C2
IL23	C1
IL24	D2
IL25	D3
IL26	D3
IL27	D4
IL28	D4
IL29	C7
IL30	D7
IL31	E7
IL32	E5
IL33	F2
IL34	F2
IL35	F1
IL36	F1
IL37	G2
IL38	F4
IL39	F5
IL40	D1

SSB: Columbus


B19
COLUMBUS
B19
COLUMBUS_IO
COLUMBUS_CTRL
7M00-1 COLUMBUS
7M00-2 COLUMBUS
7M01 DRAM 512K X 16 X 2
MSM56V16160F-7T3
7M03 LF15ABDT
7M17
Memory Interface
3D Comb
SWAN 3D Noise Reduct
MUX
656 Decod
656 Encod
B 7 TO SCALER
B 18 FROM ADC
B 13
B 11 FROM FLASH/ CONTROL
B 7 FROM SCALER
B 2 FROM HERCULES
+3V3SW
+3V3SWA
+5VSWI
+5VSWIA
3V2
5V3
1V5
3V3
COL_DE
COL_DQM
COL_RAS
COL_CAS
COL_CLK
COL_WE
COL_CLKASA
COL_CLKASB
COL_YA(1:9)
COL_VA
COL_HREF
COL_Di(1:8)
COL_Di(9)_INV
COL_Do(8)
COL_RST
#RESET
SDA
SCL
VDDS
VDDC
VSS
3139 123 6117.2
G_16210_020.eps
160106

2M00	E2
2M01	E2
2M02	E3
2M03	E3
2M04	E3
2M05	E3
2M06	E3
2M07	E3
2M08	E3
2M09	E4
2M10	E4
2M11	E5
2M12	E5
2M13	E6
2M14	E6
2M15	E6
2M16	E6
2M17	E6
2M18	E7
2M19	E7
2M20	E7
2M21	E7
2M22	E8
2M23	E8
2M24	F7
2M25	A9
2M26	A10
2M27	A10
2M28	A10
2M29	A11
2M30	A11
2M31	E4
2M32	A9
2M33	F3
2M56	E7
2M65	A2
2M66	A2
2M67	B2
2M68	B2
3M00	A4
3M01-1	B7
3M01-2	B7
3M01-3	B7
3M01-4	B7
3M02-1	B7
3M02-2	B7
3M02-3	B7
3M02-4	B7
3M03-1	B7
3M03-2	B7
3M03-3	B7
3M03-4	B7
3M04-1	C7
3M04-2	C7
3M04-3	C7
3M04-4	C7
3M06-1	C7
3M06-2	C7
3M06-3	C7
3M06-4	C7
3M07-1	C7
3M07-2	D7
3M07-3	D7
3M07-4	D7
3M08-1	D7
3M08-2	D7
3M08-3	D7
3M08-4	D7
3M09-1	D7
3M09-2	D7
3M09-3	E7
3M10	F3
3M11	F3
3M12	G3
3M13	H3
3M14	G7
3M15	G7
3M16	C9
3M28	C7
3M29	D7
3M50	G3
3M51	G3
3M52	G3
3M53	G2
3M54	G2
3M55	G2
3M56	G2
3M57	G2
3M58	G2
3M59	G2
3M78	F7
3M79	A5
3M86	A6
3M87	A5
3M88	C8
3M89	C5
3M90	E4
4M00	B5
4M01	B5
4M02	B5
4M03	B5
4M04	F3
4M05	F3
4M06	F3
4M08	F7
4M09	F7
4M10	D10
4M16	F3
4M17	F3
5M00	E8
5M01	F7
5M02	E2
5M03	A2
5M04	A2
5M05	A10
7M00-1	A7
7M00-2	F4
7M01	B11
7M03	E8
7M17	A4
FM01	G2
FM02	G2
FM03	G2
FM04	G2
FM05	G2
IM00	C8
IM01	E7
IM02	C7
IM03	C5
IM04	C5
IM05	D7
IM06	C5
IM07	C5
IM08	A10
IM09	E8
IM10	C7
IM11	F7
IM12	C10
IM13	C10
IM15	E2
IM16	F3
IM17	F3
IM18	F3
IM20	G7

SSB: Pacific 3


B20
PACIFIC 3
LVDS CONNECTOR MATRIX
LCD 26" & 32"
1N16
TO LCD PANEL (TIMING CONTROL)
0-1453230-3
LCD 37" & 42"
PDP 42" & 50"
1N17
1N18
TO PLASMA PANEL (TIMING CONTROL)
FI-WE31P-HFE-E1500
FI-TWE31P-VF-E1400
B9
FROM SCALER INTERFACE
B8
FROM SCALER
B2
FROM HERCULES
B6
FROM DC-DC CONVERTER
FOR LCD ONLY
7N00-1
T6TF4AFG-0002
LVDS
7N00-2
T6TF4AFG-0002
MISC
7N00-3
T6TF4AFG-0002
SUPPLY
7N02
M25P05-AVMN6
512K FLASH
7N03
LF25ABDT
7N04
LF15ABDT
7N05
BC847BW
FOR DEBUGGING
FOR PACIFIC3 PROGRAMMING
DEBUGGER CONNECTION
B10B-PH-SM3-TBT
RESET
B7
FROM SCALER INTERFACE
RESET BUTTON
1N05
SKQR
FOR OTC ONLY
1N20
BM03B-SRSS-TBT
BACKLIGHT_DIM
LAMP_ON_OFF
SC_STANDBY
PIXEL+_RESET
3139 123 6117.2
G_16210_021.eps
160106

1N02	A11
1N03	H12
1N04	G12
1N05	J13
1N11	D6
1N12	E6
1N13	F6
1N14	F6
1N15	G6
1N16	A10
1N17	D10
1N18	D11
1N19	G9
1N20	J14
2N01	J1
2N02	J1
2N03	J1
2N04	J1
2N05	J1
2N06	J1
2N07	J1
2N08	J2
2N09	J2
2N10	J2
2N11	J2
2N12	J2
2N13	J2
2N14	J2
2N15	J3
2N16	J3
2N17	I2
2N19	I2
2N20	I3
2N21	I3
2N22	I3
2N23	I3
2N24	I3
2N25	I4
2N26	I5
2N27	I5
2N28	H6
2N29	H7
2N30	H7
2N31	I6
2N32	I7
2N33	I7
2N35	I7
2N36	I7
2N37	I8
2N38	I8
2N39	I8
2N40	I8
2N41	I8
2N42	I8
2N43	I8
2N44	I9
2N45	I9
2N46	I9
2N47	I9
2N48	I9
2N49	I9
2N50	I9
2N51	I10
2N54	C2
2N55	C2
2N56	C3
2N57	C3
2N58	C3
2N59	C3
2N60	C3
2N61	C3
2N62	C4
2N63	C4
2N64	C4
2N65	C4
2N66	C4
2N67	C4
2N68	I13
2N69	B14
2N75	E13
2N76	E13
2N80	E7
2N81	E7
2N82	E7
2N83	E7
2N84	F7
2N85	F7
2N86	F7
2N87	F7
2N88	G7
2N89	G7
2N90	G8
3N01	E1
3N02	E1
3N03	F1
3N04	F1
3N05	F1
3N10	A12
3N11	A11
3N12	C12
3N13	B14
3N14	B14
3N15	B14
3N16	B14
3N17	B14
3N19	C11
3N20	G12
3N21	G12
3N22	H12
3N23	H13
3N26	I13
3N27	G10
3N28	G10
3N29	B13
3N30	F8
3N31	F8
3N71	E12
3N72	E12
3N73	E12
3N80	E8
3N81	E8
4N01	A3
4N02	A3
4N03	A3
4N04	A3
4N05	B3
4N06	B3
4N07	B3
4N08	B3
4N09	B3
4N10	B3
4N11	B12
4N12	C12
4N13	C12
4N20	D8
4N21	E8
4N22	F8
4N23	F8
4N24	F8
4N25	F8
4N26	F8
4N27	F8
4N28	F9
4N29	F9
4N30	J12
4N31	J12
4N34	H10
4N35	H10
4N36	F9
4N37	F10
4N38	F8
5N03	H5
5N04	H2
5N05	H6
5N06	H6
5N07	I10
5N10	B2
5N11	B4
5N12	B3
5N72	E13
6N19	C11
7N00-1	C3
7N00-2	A13
7N00-3	J8
7N02	F13
7N03	H4
7N04	H2
7N05	G9
FN01	B2
FN02	C3
FN03	B3
FN09	I4
FN10	H5
FN11	H7
FN12	H7
FN13	B12
FN15	B12
FN16	B12
FN17	B12
FN18	B12
FN19	B12
FN20	C12
FN24	C12
FN25	C12
FN32	D10
FN33	D10
FN34	F10
FN35	F12
FN36	F12
FN38	G12
FN39	G12
FN40	G12
FN41	H12
FN42	H12
FN43	H12
FN44	H12
FN46	G10
FN47	H10
FN48	H10
FN49	H10
FN50	H10
FN51	H10
FN52	H10
FN53	H10
FN54	H10
FN55	H10
FN56	A12
FN57	A12
FN58	E13
FN59	I9
IN01	H2
IN02	H5
IN03	E10
IN04	E10
IN05	F9
IN06	F9
IN07	F9
IN08	F9
IN09	C12
IN10	C11
IN11	B13
IN12	B13
IN13	B13
IN14	B13
IN15	B13
IN16	G13
IN17	G13
IN18	J12
IN19	J12
IN20	B13

SSB: Diversity Tables B9-B20

B09

Item Nr.		PDP 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	PDP DVB 42" - 50"	PDP DVB SDI	PDP SDI	Decription
2A00	319801731040	☑	☐	☐	☑	☑	☑	CER2 0603 X7R 16V 100N COL
2A01	319803401010	☑	☐	☐	☑	☑	☑	CER1 0402 NP0 50V 100P COL
2A02	319803401010	☑	☐	☐	☑	☑	☑	CER1 0402 NP0 50V 100P COL
2A12	319803521030	☑	☐	☑	☑	☑	☑	CER2 0402 X7R 16V 10N COL
2A13	319803571040	☑	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2A14	319803521030	☐	☐	☐	☑	☑	☐	CER2 0402 X7R 16V 10N COL
3A00	319803106890	☑	☐	☐	☑	☐	☐	RST SM 0402 68R PM5 COL
3A01	319803106890	☑	☐	☐	☑	☐	☐	RST SM 0402 68R PM5 COL
3A02	319803101020	☐	☑	☑	☐	☐	☐	RST SM 0402 1K PM5 COL
3A07	319803101030	☑	☐	☐	☑	☑	☑	RST SM 0402 10K PM5 COL
3A08	319803101030	☑	☑	☐	☑	☑	☑	RST SM 0402 10K PM5 COL
3A10	319803101030	☑	☐	☑	☑	☑	☑	RST SM 0402 10K PM5 COL
3A11	319803101030	☑	☐	☑	☑	☑	☑	RST SM 0402 10K PM5 COL
3A13	319803101030	☑	☐	☑	☑	☑	☑	RST SM 0402 10K PM5 COL
3A14	319803104720	☑	☐	☑	☑	☑	☑	RST SM 0402 4K7 PM5 COL
3A15	319803103320	☐	☐	☐	☑	☑	☐	RST SM 0402 3K3 PM5 COL
3A16	319803101030	☐	☐	☐	☑	☑	☐	RST SM 0402 10K PM5 COL
4A03	319802190030	☐	☑	☑	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
4A04	319803190010	☑	☐	☐	☑	☑	☑	RST SM 0402 JUMP. 0R05 COL
4A05	319803190010	☐	☑	☐	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
4A06	319803190010	☐	☑	☐	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
5A00	319801890060	☑	☐	☐	☑	☐	☐	FXDIND 0805 100MHZ 30R COL R
7A00	935275998118	☑	☐	☐	☑	☑	☑	IC SM PCA9515ADP (PHSE) R
7A02	319801042310	☑	☐	☑	☑	☑	☑	TRA SIG SM BC847BW (COL) R
7A03	319801042310	☑	☐	☑	☑	☑	☑	TRA SIG SM BC847BW (COL) R
7A04	319801042310	☐	☐	☐	☑	☑	☐	TRA SIG SM BC847BW (COL) R

B13

Item Nr.		EU 10pg TXT	EU 1000pg TXT	AP with TXT	AP non TXT	Description
2E04	202055200005	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2E05	202055200005	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2E06	202055200005	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2E15	319803571040	☐	☐	☑	☑	CER2 0402 Y5V 16V 100N COL
2E21	202055200005	☐	☐	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2E22	202055200005	☐	☐	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2E23	202055200005	☐	☐	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
3E00	232270570569	☐	☐	☑	☑	RST SM 0402 RC31 56R PM5 R
3E01	232270570569	☐	☐	☑	☑	RST SM 0402 RC31 56R PM5 R
3E02	232270570569	☐	☐	☑	☑	RST SM 0402 RC31 56R PM5 R
3E13	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
	319803190010	☐	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3E14	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
	319803190010	☐	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3E15	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
	319803190010	☐	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3E16	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
3E17	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
3E18	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
3E32	319803101010	☐	☐	☑	☑	RST SM 0402 100R PM5 COL
3E34	319803101010	☐	☐	☑	☑	RST SM 0402 100R PM5 COL
3E46	319803101010	☐	☐	☑	☑	RST SM 0402 100R PM5 COL
	319803101090	☑	☑	☐	☐	RST SM 0402 10R PM5 COL
4E10	319803101090	☑	☑	☐	☐	RST SM 0402 10R PM5 COL
4E11	319803101090	☑	☑	☐	☐	RST SM 0402 10R PM5 COL
5E02	242254945333	☐	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
5E03	242254945333	☐	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
6E01	319802052780	☐	☐	☑	☑	DIO REG SM BZX384-C2V7 COL R
6E03	319802052780	☐	☐	☑	☑	DIO REG SM BZX384-C2V7 COL R
7E02	932219956668	☐	☐	☑	☑	IC SM ADG781BCPZ (ANA0) R
7E03	319801071090	☐	☐	☑	☑	IC SM 74HC4053D (COL) R
7E04	319801070740	☑	☑	☑	☐	IC SM 74LCX14T (COL) R
	935260739118	☐	☐	☐	☑	IC SM 74LVC14APW (PHSE) R
7E05	319801070740	☑	☑	☑	☐	IC SM 74LCX14T (COL) R
	935260739118	☐	☐	☐	☑	IC SM 74LVC14APW (PHSE) R

B15AB

Item Nr.		Non DVB	With DVB	Desciption
1G03	242202518872	☐	☑	CON H 32P F 0.50 SM FPC 0.3 R
2G31	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G32	319801741050	☐	☑	CER2 0603 Y5V 10V 1U COL
	319803041090	☐	☑	ELCAP SM 16V 10U PM20 COL R
2G35	319803571040	☐	☑	CER2 0402 Y5V 16V 100N COL
2G36	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G37	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G38	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G39	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G40	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G41	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G45	319801731020	☐	☑	CER2 0603 X7R 50V 1N COL
	319803501020	☐	☑	CER2 0402 X7R 50V 1N COL
2G48	319801741050	☐	☑	CER2 0603 Y5V 10V 1U COL
2G49	319801741050	☐	☑	CER2 0603 Y5V 10V 1U COL
2G50	319803041090	☐	☑	ELCAP SM 16V 10U PM20 COL R
2G51	319803571040	☐	☑	CER2 0402 Y5V 16V 100N COL
2G52	202055296703	☐	☑	CER1 0402 NP0 50V 180P PM5 R
2G53	202055296703	☐	☑	CER1 0402 NP0 50V 180P PM5 R
2G62	202055200035	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
2G63	202055200035	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
2G65	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G66	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G72	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
3G40	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G41	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G42	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G43	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G44	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G45	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G46	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G47	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G48	319803106890	☐	☑	RST SM 0402 68R PM5 COL
3G49	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G50	319803106890	☐	☑	RST SM 0402 68R PM5 COL
3G51	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G52	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G53	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G54	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G55	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G56	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G60	319803104720	☐	☑	RST SM 0402 4K7 PM5 COL
3G61	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G62	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G63	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G64	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G65	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G66	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G67	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G68	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G69	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G70	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G71	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G80	319803106890	☐	☑	RST SM 0402 68R PM5 COL
3G81	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G83	319803101030	☐	☑	RST SM 0402 10K PM5 COL
3G84	319803101030	☐	☑	RST SM 0402 10K PM5 COL
3G85	319803104730			RST SM 0402 47K PM5 COL
3G86	319803104730			RST SM 0402 47K PM5 COL
3G87	319803104730			RST SM 0402 47K PM5 COL
3G88	319803101020			RST SM 0402 1K PM5 COL
3G89	319803104730			RST SM 0402 47K PM5 COL
3G90	319803101020			RST SM 0402 1K PM5 COL
3G91	319803101020			RST SM 0402 1K PM5 COL
3G92	319803102230			RST SM 0402 22K PM5 COL

B16

Item Nr.		LCD 37" - 42	LCD 26" - 32	PDP 42" - 50	Description
1J00	242202510771	☑	☐	☑	CON V 10P M 2.00 PH B
1J01	242202510655	☑	☐	☑	CON V 11P M 2.00 PH B
1J02	242202510772	☐	☑	☐	CON V 12P M 2.00 PH B
1J03	242202510768	☐	☑	☐	CON V 3P M 2.00 PH B
1J07	242208611081	☑	☐	☑	FUSE SM T 3A 125V UL R
1J08	242254945333	☑	☐	☑	IND FXD 1206 EMI 100MHZ 120R R
2J18	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J19	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J22	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J23	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J31	319803401010	☑	☐	☑	CER1 0402 NP0 50V 100P COL
3J03	319803106890	☑	☑	☐	RST SM 0402 68R PM5 COL
3J04	319803106890	☑	☑	☐	RST SM 0402 68R PM5 COL
4J01	319803190010	☑	☐	☑	RST SM 0402 JUMP. 0R05 COL
5J04	242254945333	☑	☐	☑	IND FXD 1206 EMI 100MHZ 120R R

B17

Item Nr.		26in - 32i	37in - 50i	Description
1K01	242202510772	☑	☐	CON V 12P M 2.00 PH B
1K04	242202510655	☐	☑	CON V 11P M 2.00 PH B
2K15	319803401010	☑	☐	CER1 0402 NP0 50V 100P COL
3K08	319803106890	☑	☐	RST SM 0402 68R PM5 COL
4K02	319802190030	☐	☑	RST SM 0603 JUMP. 0R05 COL

B20 LVDS Conn.

Item Nr.		PDP LG	LCD 37" - 42	LCD 26" - 32	PDP FHP	PDP SDI	Description
1N16	242202518772	☐	☐	☑	☐	☐	CON V 30P M 1.25 SM 1453230 R
1N17	242202518427	☑	☑	☐	☑	☑	CON H 31P F 1.25 SM FI-WE R
2N90	319803571030	☐	☐	☐	☐	☑	CER2 0402 Y5V 16V 10N COL
3N30	319803101030	☐	☐	☐	☐	☑	RST SM 0402 10K PM5 COL
3N31	319803104720	☐	☐	☐	☐	☑	RST SM 0402 4K7 PM5 COL
3N80	319803101010	☑	☑	☐	☐	☐	RST SM 0402 100R PM5 COL
3N81	319803101010	☑	☑	☐	☐	☐	RST SM 0402 100R PM5 COL
4N24	319803190010	☐	☐	☐	☑	☐	RST SM 0402 JUMP. 0R05 COL
4N26	319803190010	☑	☑	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
4N36	319803190010	☐	☐	☐	☑	☐	RST SM 0402 JUMP. 0R05 COL
4N37	319803190010	☐	☐	☐	☑	☐	RST SM 0402 JUMP. 0R05 COL
7N05	319801042310	☐	☐	☐	☐	☑	TRA SIG SM BC847BW (COL) R

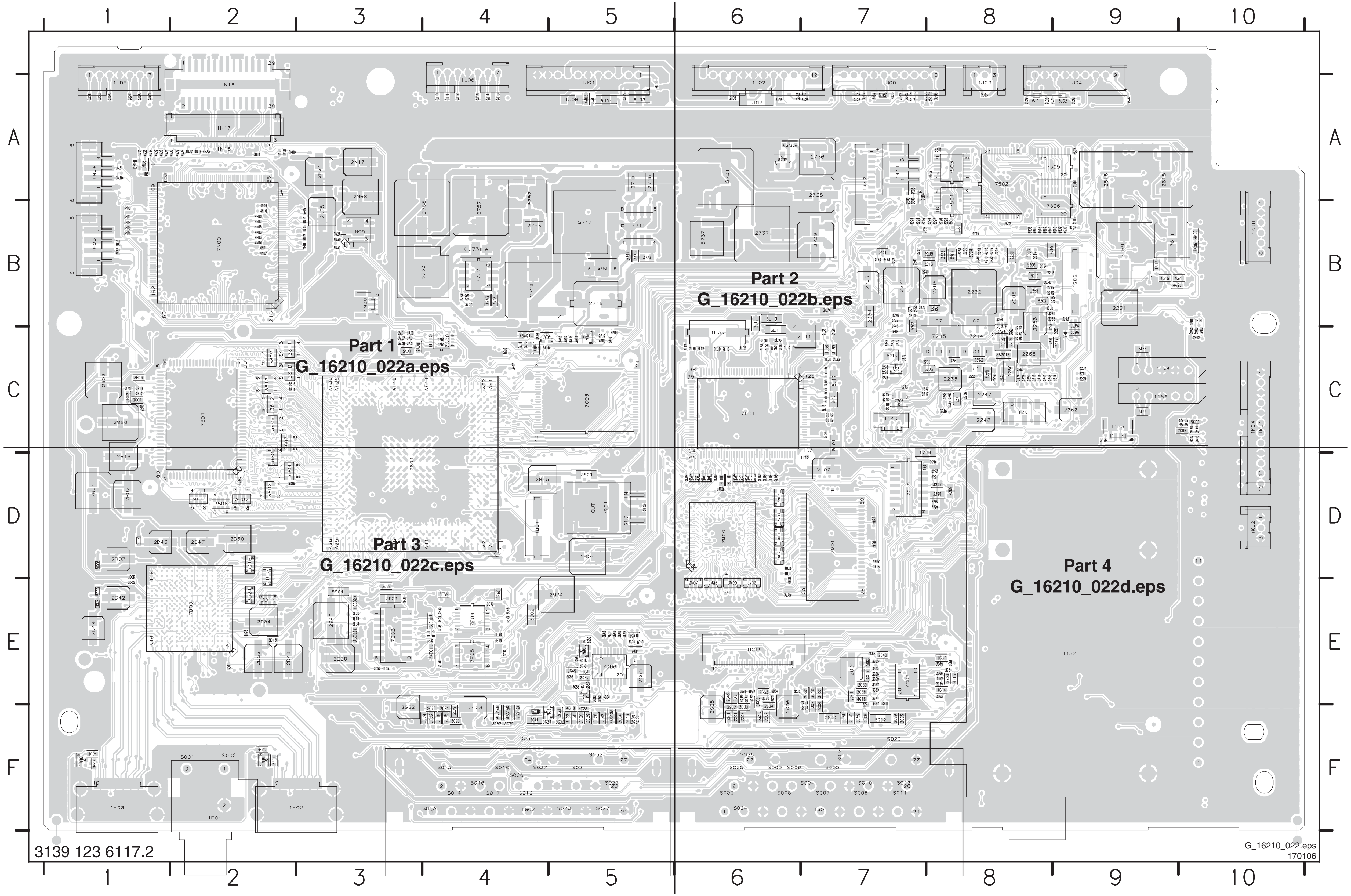
B20 Pac-3

Item Nr.		With Pixel Plus (Pa	Non Pixel Plus	Description
1N02	242254000017	☑	☐	R
1N03	242202518779	☑	☐	CON V 4P M 2.00 SM PH R
1N04	242202518196	☐	☐	CON V 4P M 2.00 SM PH R
	242202518779	☑	☐	CON V 4P M 2.00 SM PH R
1N05	242212802975	☑	☐	SWI TACT SM H=0.5 160G SKQR R
1N19	242202518734	☑	☐	CON V 10P M 2.00 SM PH R
2N01	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N02	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N03	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N04	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N05	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N06	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N07	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N08	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N09	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N10	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N11	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N12	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N13	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N14	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N15	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N16	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N17	319803024790	☑	☐	ELCAP SM 6V3 47U PM20 COL R
2N19	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N20	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N21	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N22	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N23	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N24	319803024790	☑	☐	ELCAP SM 6V3 47U PM20 COL R
2N25	319803024790	☑	☐	ELCAP SM 6V3 47U PM20 COL R
2N26	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N27	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N28	202055200005	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2N29	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N30	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N31	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N32	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N33	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N35	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N36	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N37	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N38	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N39	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N40	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N41	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N42	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N43	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N44	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N45	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N46	319803571040			CER2 0402 Y5V 16V 100N COL
2N47	319803571040			CER2 0402 Y5V 16V 100N COL
2N48	319803571040			CER2 0402 Y5V 16V 100N COL
2N49	319803571040			CER2 0402 Y5V 16V 100N COL
2N50	319803571040			CER2 0402 Y5V 16V 100N COL
2N51	319803024790			ELCAP SM 6V3 47U PM20 COL R
2N54	319803074780			ELCAP SM 35V 4U7 PM20 COL R

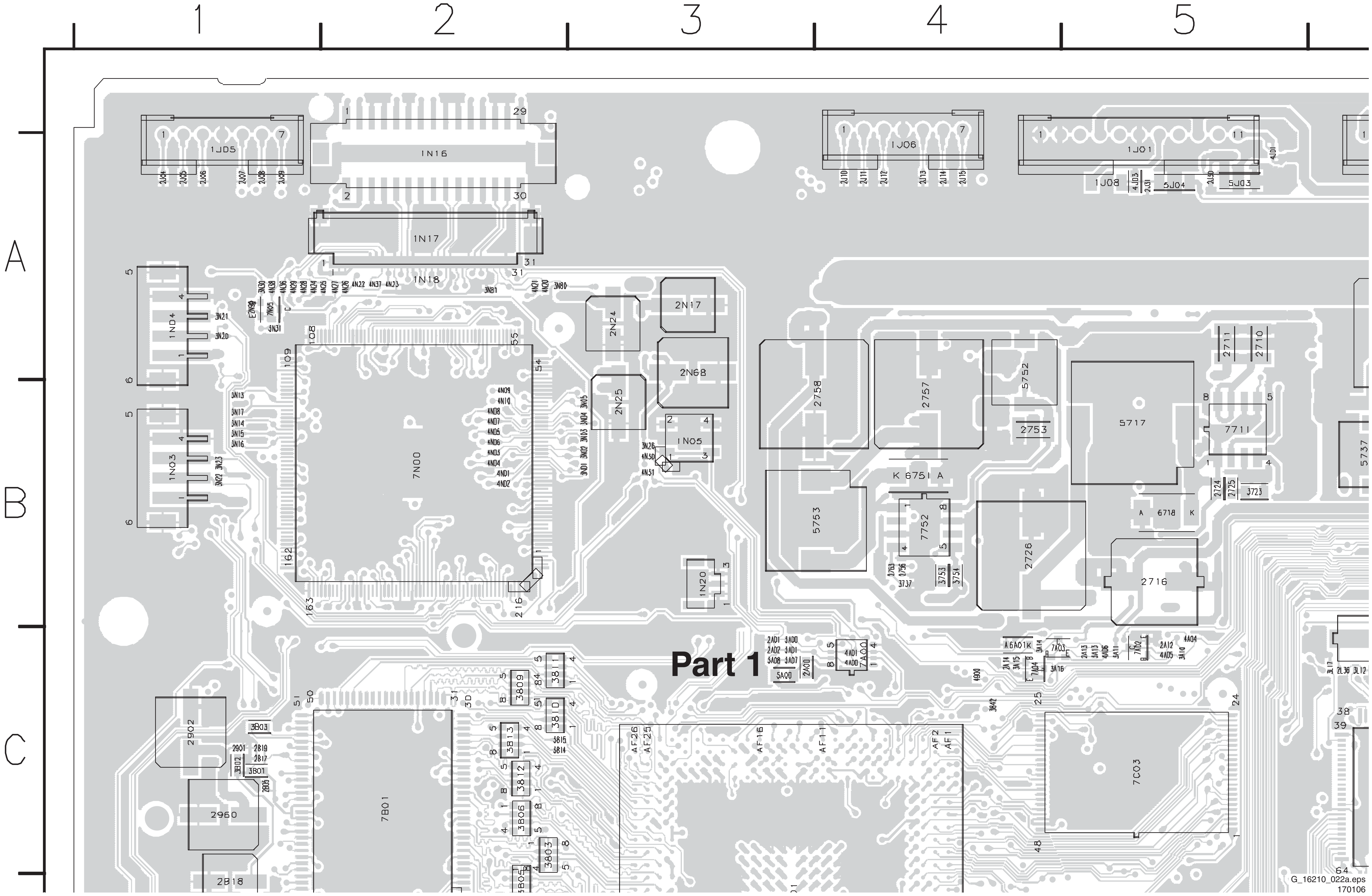
G_16210_066.eps
190106

Layout Small Signal Board (Top Side Overview)

1152	E9
1153	C9
1154	C9
1156	C9
1201	C8
1202	B9
1440	C7
1441	A7
1442	A7
1801	D4
1F01	F2
1F02	F2
1F03	F1
1G01	F7
1G02	F4
1G03	E6
1J00	A7
1J01	A5
1J02	A6
1J03	A8
1J04	A9
1J05	A1
1J06	A4
1J07	A6
1J08	A5
1K00	B10
1K01	C10
1K02	D10
1K04	C10
1L35	C6
1N03	B1
1N04	A1
1N05	B3
1N16	A2
1N17	A2
1N18	A2
1N20	B3
2203	B7
2205	C8
2206	C8
2207	C8
2208	B8
2209	B8
2210	B7
2211	C9
2213	C7
2214	C8
2216	C8
2218	C7
2221	B9
2222	B8
2223	B7
2224	B7
2226	C8
2228	C8
2229	C8
2230	B8
2231	B8
2232	C8
2233	C8
2234	B8
2235	B8
2236	B8
2237	B7
2238	B8
2240	B7
2241	B7
2242	C8
2243	C8
2244	B7
2245	B7
2246	B7
2247	C8
2248	C8
2249	C8
2250	B7
2251	B7
2255	C8
2256	B8
2257	C9
2258	B8
2259	C8
2260	B8
2262	C9
2263	B8
2264	B9
2265	C9
2266	C8
2267	C8
2268	C8
2269	B9
2270	B8
2271	B7
2272	B7
2274	C9
2275	B8
2276	B8
2277	C7
2278	C7
2279	C7
2285	B9
2286	C8
2287	C8
2288	C8
2290	D8
2291	D8
2447	B7
2448	B7
2501	B8
2502	B8
2503	A8
2504	A9
2505	B9
2506	B8
2507	A9
2508	A7
2509	B7
2611	B9
2615	A9
2618	A9
2710	A5
2711	A5
2716	B5
2724	B5
2725	B5
2726	B4
2731	A6
2736	A7
2737	B6
2738	A7
2739	B7
2753	B4
2756	B4
2757	B4
2758	B4
2763	B4
2815	D4
2901	C1
2902	C1
2903	D5
2904	D5
2934	E5
2940	E3
2960	C1
2A00	C3
2A01	C3
2A02	C3
2A12	C5
2A13	C5
2A14	C4
2B01	D1
2B02	D1
2B05	C1
2B17	C1
2B18	D1
2B19	C1
2D02	D1
2D42	E1
2D43	D1
2D44	E1
2D46	E2
2D47	D2
2D50	D2
2D52	E2
2D54	E2
2E20	E3
2E31	E3
2E32	E4
2E36	E4
2G01	F6
2G02	F6
2G03	F6
2G04	F6
2G05	F6
2G06	F6
2G07	F6
2G18	F4
2G19	F4
2G20	F4
2G21	F4
2G22	F3
2G23	F4
2G29	F7
2G30	F7
2G31	E6
2G32	E5
2G34	E7
2G35	E8
2G36	E8
2G37	E8
2G38	E7
2G39	E7
2G40	E7
2G41	E7
2G42	F5
2G43	F5
2G45	E6
2G48	E5
2G49	E5
2G50	E5
2G51	E5
2G52	E6
2G53	E7
2G62	E7
2G63	E6
2G71	F4
2J02	A6
2J03	A8
2J04	A1
2J05	A1
2J06	A1
2J07	A1
2J08	A1
2J09	A1
2J10	A4
2J11	A4
2J12	A4
2J13	A4
2J14	A4
2J15	A4
2J16	A8
2J17	A7
2J18	A7
2J19	A7
2J20	A8
2J21	A7
2J22	A7
2J23	A7
2J26	A8
2J27	A9
2J28	A8
2J29	A8
2J30	A5
2J31	A5
2J33	A7
2J34	A7
2J35	A6
2J36	A9
2K02	C10
2K03	C10
2K04	B10
2K05	C10
2K06	C10
2K07	C10
2K08	C10
2K19	C10
2K20	C10
2L02	D7
2L06	D6
2L07	D6
2L08	D6
2L11	C7
2L12	C6
2L13	C7
2L14	C7
2L15	C6
2L16	C7
2L17	C7
2L18	C7
2L19	B6
2L20	C6
2L25	C7
2L31	C7
2L32	C7
2L33	C7
2L35	C6
2L36	C6
2L38	C7
2L39	C7
2L70	B7
2L93	C6
2L96	C6
2L98	C6
2M27	D7
2M28	D7
2M29	E6
2N17	A3
2N24	A3
2N25	B3
2N68	A3
2N90	A1
3166	C9
3167	C9
3207	C9
3214	C9
3215	C7
3216	C7
3217	C7
3222	B8
3223	B7
3224	B8
3225	B7
3226	B8
3227	B8
3230	B8
3231	B8
3234	B8
3235	B8
3236	B8
3242	C7
3244	C7
3245	C9
3262	C8
3263	C8
3264	B8
3265	C8
3266	C8
3267	C8
3268	C7
3270	B7
3271	B7
3272	B9
3273	B8
3274	C8
3277	C7
3278	C7
3279	C7
3280	C8
3281	C8
3282	D8
3285	C8
3286	C8
3291	D8
3292	D8
3293	D8
3294	D8
3295	C9
3501	A8
3502	B7
3723	B5
3737	B4
3753	B4
3754	B4
3801	D2
3802	D2
3803	C2
3804	D2
3805	D2
3806	C2
3807	D2
3808	D2
3809	C2
3810	C2
3811	C2
3812	C2
3813	C2
3814	C2
3815	C2
3816	D2
3842	C4
3A00	C3
3A01	C3
3A07	C3
3A08	C3
3A10	C5
3A11	C5
3A13	C5
3A14	C4
3A15	C4
3A16	C4
3B01	C1
3B02	C1
3B03	C1
3D05	E1
3D06	D1
3D11	E2
3D15	D2
3D16	D2
3D17	E2
3D18	E2
3D21	E2
3D23	E2
3E31	E4
3E32	E4
3E33	E3
3E34	E3
3E35	E4
3E36	E4
3E37	E4
3E38	E4
3E39	E4
3E43	E4
3E46	E4
3E49	E4
3E57	E3
3E58	E4
3E59	E3
3E60	E4
3F01	F2
3F02	F2
3F03	F1
3F04	F1
3G01	F6
3G02	F6
3G03	E6
3G06	F7
3G07	E7
3G08	F7
3G09	F7
3G10	E7
3G22	F4
3G23	F4
3G24	F4
3G25	F4
3G28	F5
3G29	F5
3G30	F5
3G31	F4
3G32	F5
3G33	F5
3G34	F5
3G35	F5
3G36	F5
3G37	F5
3G38	F6
3G40	E5
3G41	E5
3G42	E5
3G43	E5
3G44	E5
3G45	E5
3G46	E5
3G47	E5
3G48	E5
3G49	E5
3G50	E5
3G51	E5
3G52	E5
3G53	E5
3G54	E5
3G55	E5
3G56	E5
3G57	F4
3G59	F7
3G60	E7
3G61	E8
3G62	E8
3G63	E8
3G64	E8
3G65	E8
3G66	E8
3G67	E7
3G68	E7
3G69	E7
3G71	E7
3G73	F7
3G74	F7
3G79	F4
3G80	E5
3G81	E6
3G82	E6
3G83	E6
3G84	E6
3G85	E7
3G86	E7
3G87	E7
3G89	E7
3G97	E6
3G98	E6
3J03	A6
3J04	A7
3J05	A7
3J06	A8
3K00	C10
3K01	B10
3K02	C10
3K03	C10
3L00	D6
3L01	D6
3L02	D6
3L03	C7
3L05	D6
3L06	D6
3L07	D6
3L09	D6
3L10	D6
3L11	C7
3L12	C6
3L13	C7
3L17	C6
3L38	C7
3L39	C7
3L93	C6
3L96	C6
3L98	C6
3M00	D6
3M01	D6
3M02	D6
3M03	D6
3M04	D6
3M06	E6
3M07	E6
3M08	E6
3M09	E6
3M16	D7
3M89	D6
3N01	B3
3N02	B3
3N03	B3
3N04	B3
3N05	B3
3N13	B1
3N14	B1
3N15	B1
3N16	B1
3N17	B1
3N20	A1
3N21	A1
3N22	B1
3N23	B1
3N26	B3
3N30	A1
3N31	A1
3N80	A2
3N81	A2
3S01	F7
3S02	E7
3S21	F7
3S22	E6
4205	B8
4206	D8
4216	B8
4217	B8
4218	B8
4219	B8
4507	B9
4508	B9
4509	B9
4510	B9
4511	B8
4512	B8
4513	B8
4514	B8
4616	B9
4617	B9
4620	B9
4621	B10
4900	C4
4A00	C4
4A01	C4
4A04	C5
4A05	C5
4A06	C5
4E03	E3
4E10	E4
4E11	E3
4G04	E5
4G14	E8
4G15	E8
4G16	E7
4G17	E7
4G18	F5
4G19	E6
4G22	F5
4G23	F5
4J01	A5
4J02	A7
4J03	A5
4K06	B10
4K07	B10
4M00	E6
4M01	D6
4M02	D7
4M03	D6
4N01	B2
4N02	B2
4N03	B2
4N04	B2
4N05	B2
4N06	B2
4N07	B2
4N08	B2
4N09	B2
4N10	B2
4N20	A2
4N21	A2
4N22	A2
4N23	A2
4N24	A1
4N25	A2
4N26	A2
4N27	A2
4N28	A1
4N29	A1
4N30	B3
4N31	B3
4N36	A1
4N37	A2
4N38	A1
5155	C9
5156	C9
5201	C8
5202	B7
5203	B8
5204	B8
5205	C8
5206	B8
5207	B8
5208	B8
5209	B8
5210	B8
5212	B8
5213	B8
5215	C7
5217	C8
5218	D7
5431	B7
5501	B8
5717	B5
5737	B6
5752	A4
5753	B4
5900	D5
5902	E4
5904	E3
5A00	C3
5D00	E1
5D01	D1
5D02	E1
5D06	D1
5E03	E3
5G02	F7
5G03	F7
5G05	E7
5G08	F4
5J01	A8
5J02	A9
5J03	A5
5J04	A5
5J05	A7
5K01	C10
5L01	C7
5L11	C6
5L17	C7
5L19	B6
6201	C8
6718	B5
6735	A6
6736	A6
6751	B4
6A01	C4
6E00	E4
6E01	E4
6E02	E3
6E03	E3
6G10	F5
6G13	F4
6G14	F4
6G15	F4
7206	C7
7214	C8
7215	C8
7216	C8
7218	C7
7219	D7
7501	B8
7502	A8
7503	A8
7504	A7
7505	A9
7506	B9
7711	B5
7752	B4
7801	D3
7901	D5
7A00	C4
7A02	C5
7A03	C4
7A04	C4
7B01	C2
7C03	C5
7D03	E2
7E03	E3
7E04	E4
7E05	E4
7F01	F2
7F02	F1
7G02	F5
7G04	E5
7G05	E5
7G06	E5
7G09	E7
7G10	E5
7L01	C6
7M00	D6
7M01	D7
7N00	B2
7N05	A1

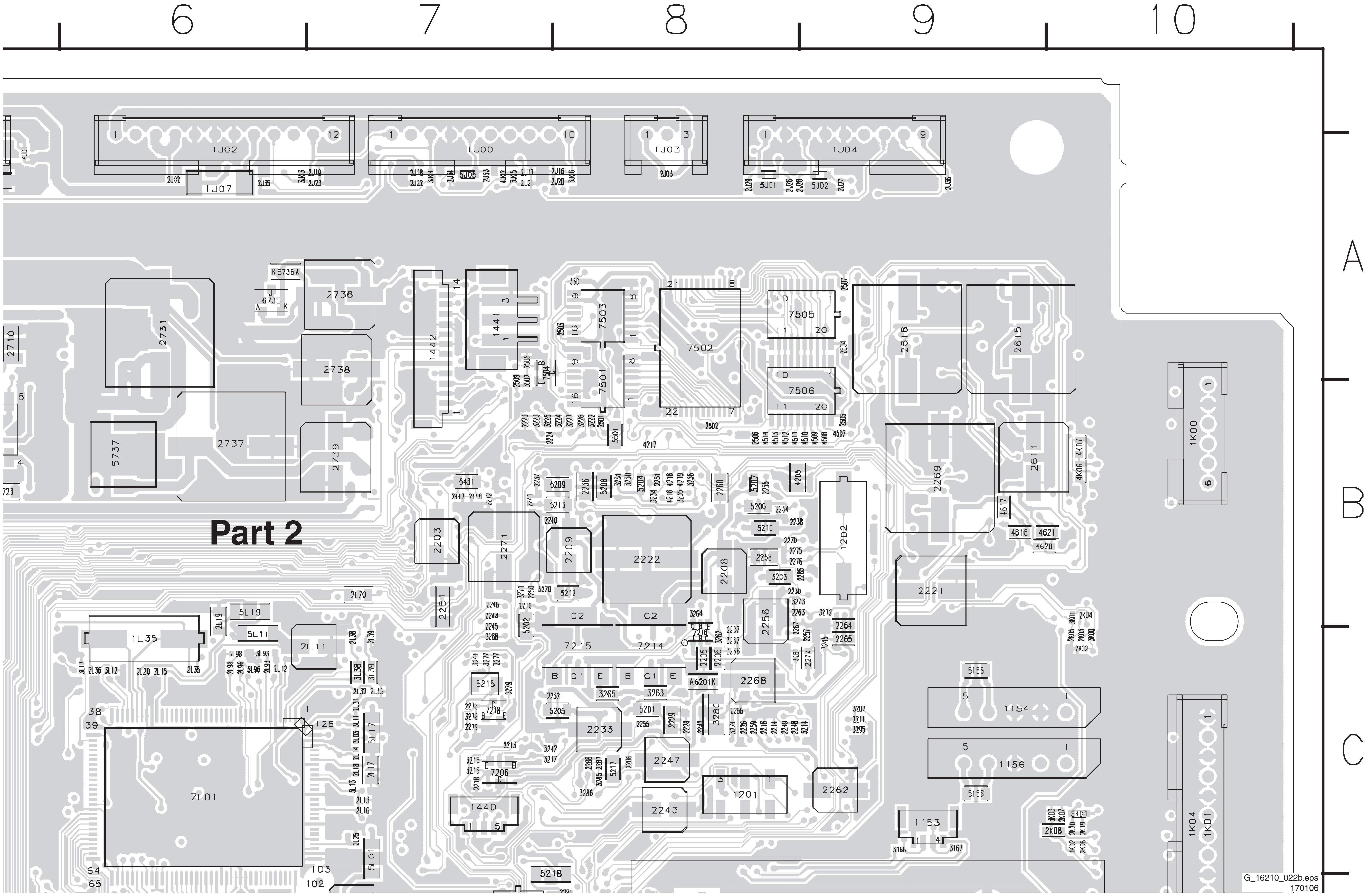


Layout Small Signal Board (Top Side Part 1)


1
2
3
4
5
A
B
C
1JD5
1N16
1N17
1N18
1J06
1J01
1J08
5J04
5J03
1ND4
1N03
2N17
2N24
2N68
2N25
1N05
1N20
7N00
2758
2757
5752
2753
5717
7711
2711
2710
5737
5753
K 6751 A
7752
2726
2716
6718
2724
2725
3723
Part 1
2A00
7A00
5A00
3809
3811
3810
3813
3812
3806
3803
2902
2960
2B18
3B03
3B01
7B01
7C03
AF26
AF25
AF16
AF11
AF2
AF1
108
109
55
54
162
163
216
29
30
31
24
25
48
38
39
64

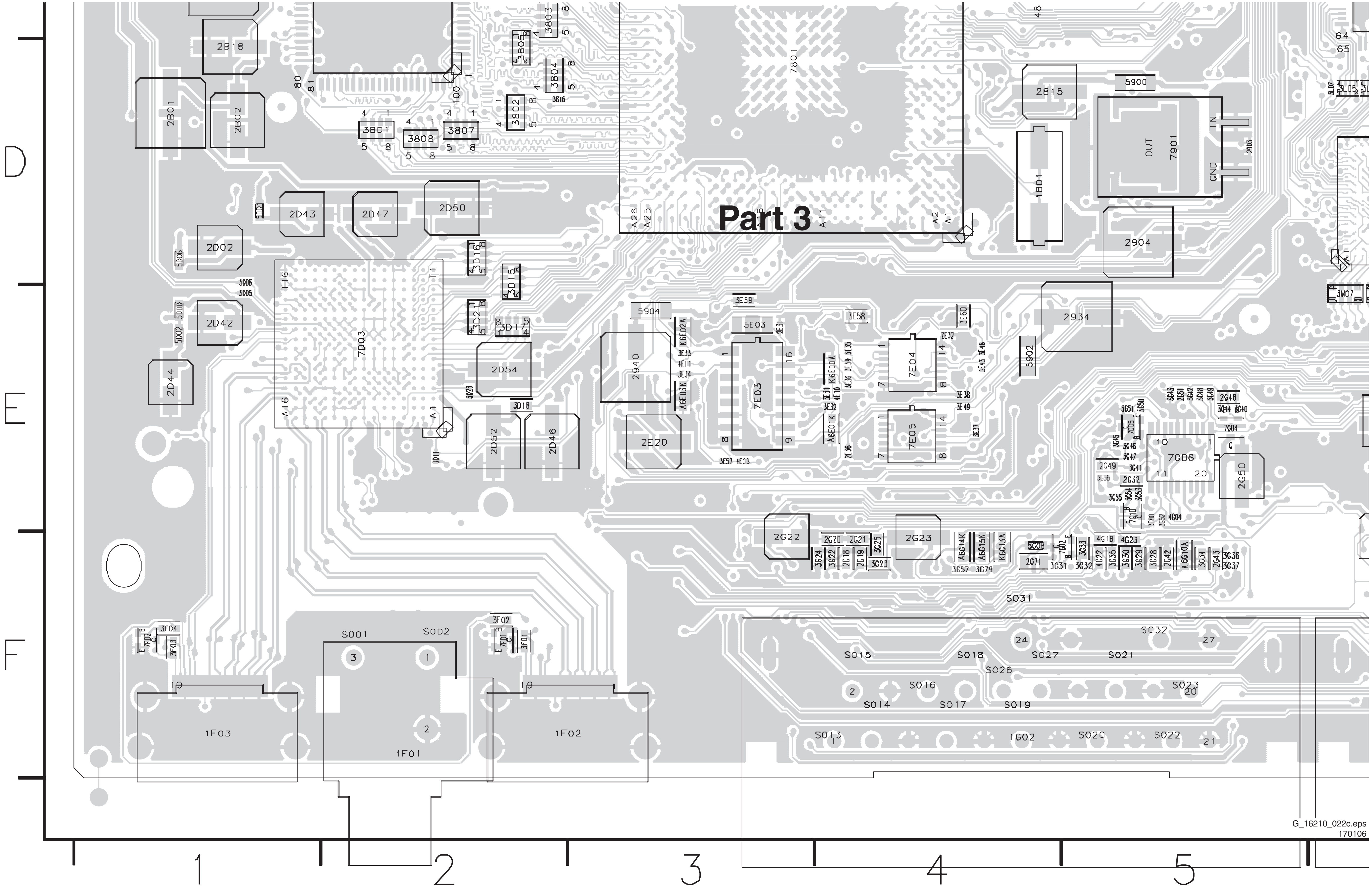
G_16210_022a.eps
170106

Layout Small Signal Board (Top Side Part 2)


6
7
8
9
10
A
B
C
Part 2
1J02
1J00
1J03
1J04
1J07
2731
2736
2738
2737
2739
5737
1442
1441
7503
7501
7502
7505
7506
2618
2615
2269
2611
1K00
2203
2271
2209
2222
2208
1202
2221
2256
2268
2233
2247
2243
2262
1201
1154
1156
1153
1440
7L01
1L35
2L11
5L19
5L11
5155
5156
5215
5218
7215
7214
1K04
1K01

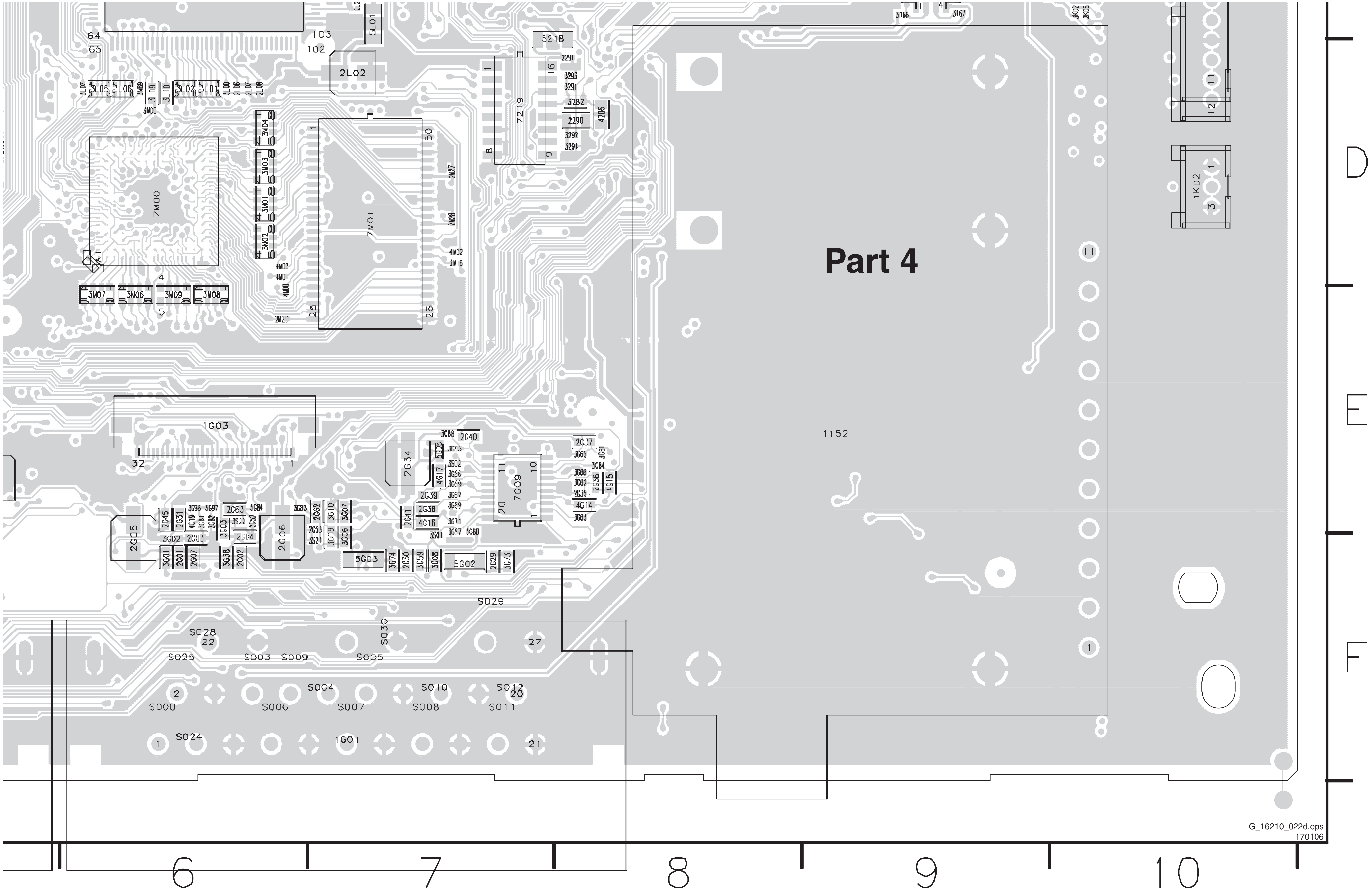
G_16210_022b.eps
170106

Layout Small Signal Board (Top Side Part 3)


Part 3
D
E
F
1
2
3
4
5
2B18
2B01
2B02
3B01
3808
3807
3802
3803
3805
3804
3816
7801
2815
5900
7901
OUT
IN
GND
1BD1
2904
2934
2D43
2D47
2D50
2D02
2D42
2D44
7D03
3D16
3D15
3D21
3D17
2D54
3D18
2D52
2D46
5904
2940
2E20
5E03
7ED3
7E04
7E05
3E58
3E59
3E60
5902
7GD6
2G50
2G48
2G22
2G23
2G20
2G21
3G25
S031
S032
S001
S002
S013
S014
S015
S016
S017
S018
S019
S020
S021
S022
S023
S026
S027
1F03
1F01
1F02
1G02
3F04
3F03
7F02
3F02
3F01
7F01
3W07

G_16210_022c.eps
170106

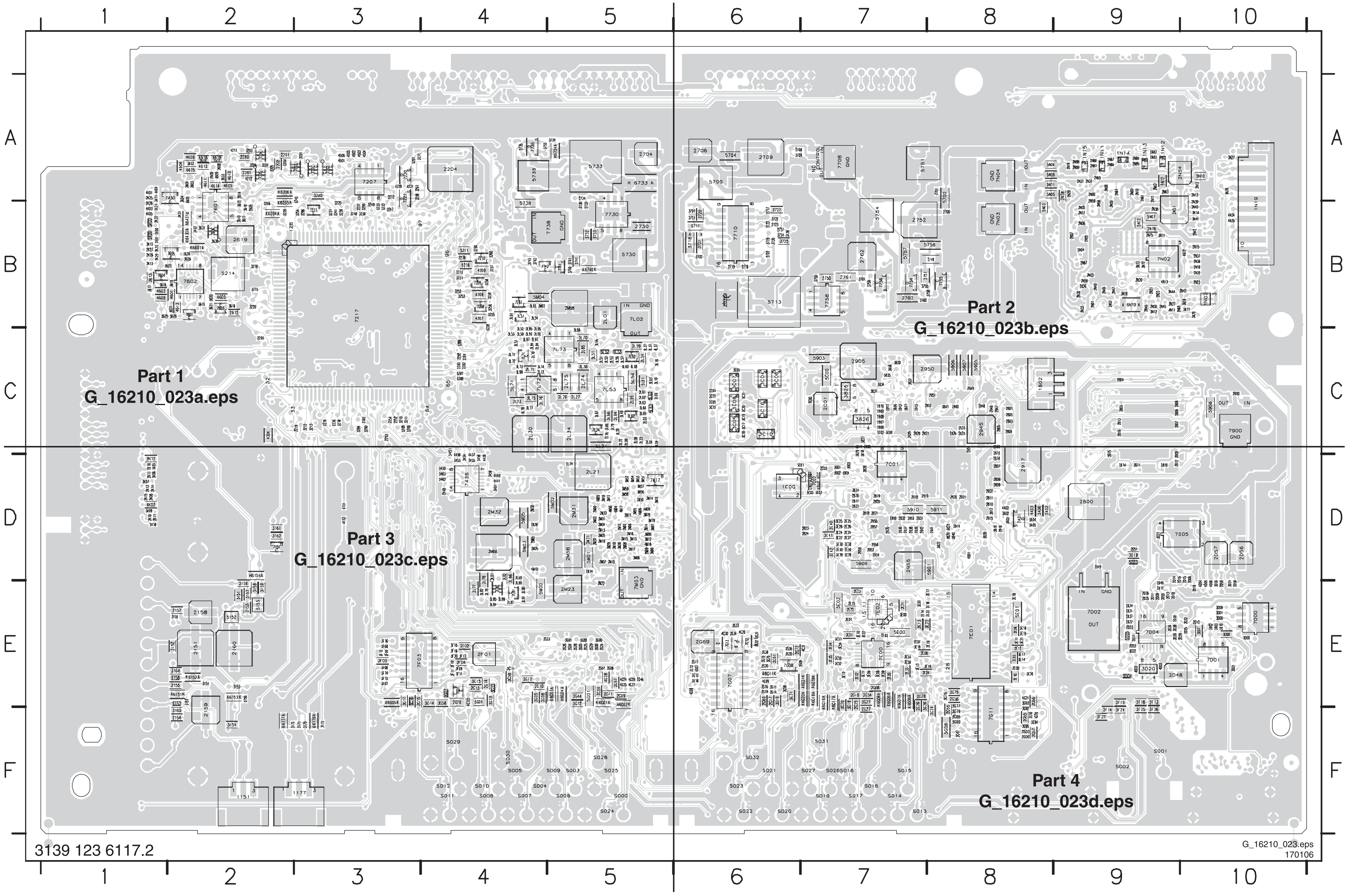
Layout Small Signal Board (Top Side Part 4)


Part 4
1152
7M00
7M01
7219
7G09
1G03
1G01
1KD2
2L02
5L01
5218
4206
2G34
2G05
2G06
5G03
5G02
3M04
3M03
3M01
3M02
3M07
3M06
3M09
3M08
3L05
3L06
3L02
3L01
3L09
3L10
3282
2290
2G37
2G36
4G15
4G14
2G40
2G39
2G38
4G16
4G17
2G41
2G63
2G04
2G45
2G31
2G03
3G02
3G01
2G01
2G07
3G38
2G02
3G03
2G62
3G10
3G07
3G09
3G06
3G74
2G30
3G59
3G08
2G29
3G73
S000
S002
S003
S004
S005
S006
S007
S008
S009
S010
S011
S012
S024
S025
S028
S029
S030
1
2
20
21
22
27
11
12
3
64
65
103
102
50
25
26
16
8
9
10
4
5
32
D
E
F
6
7
8
9
10

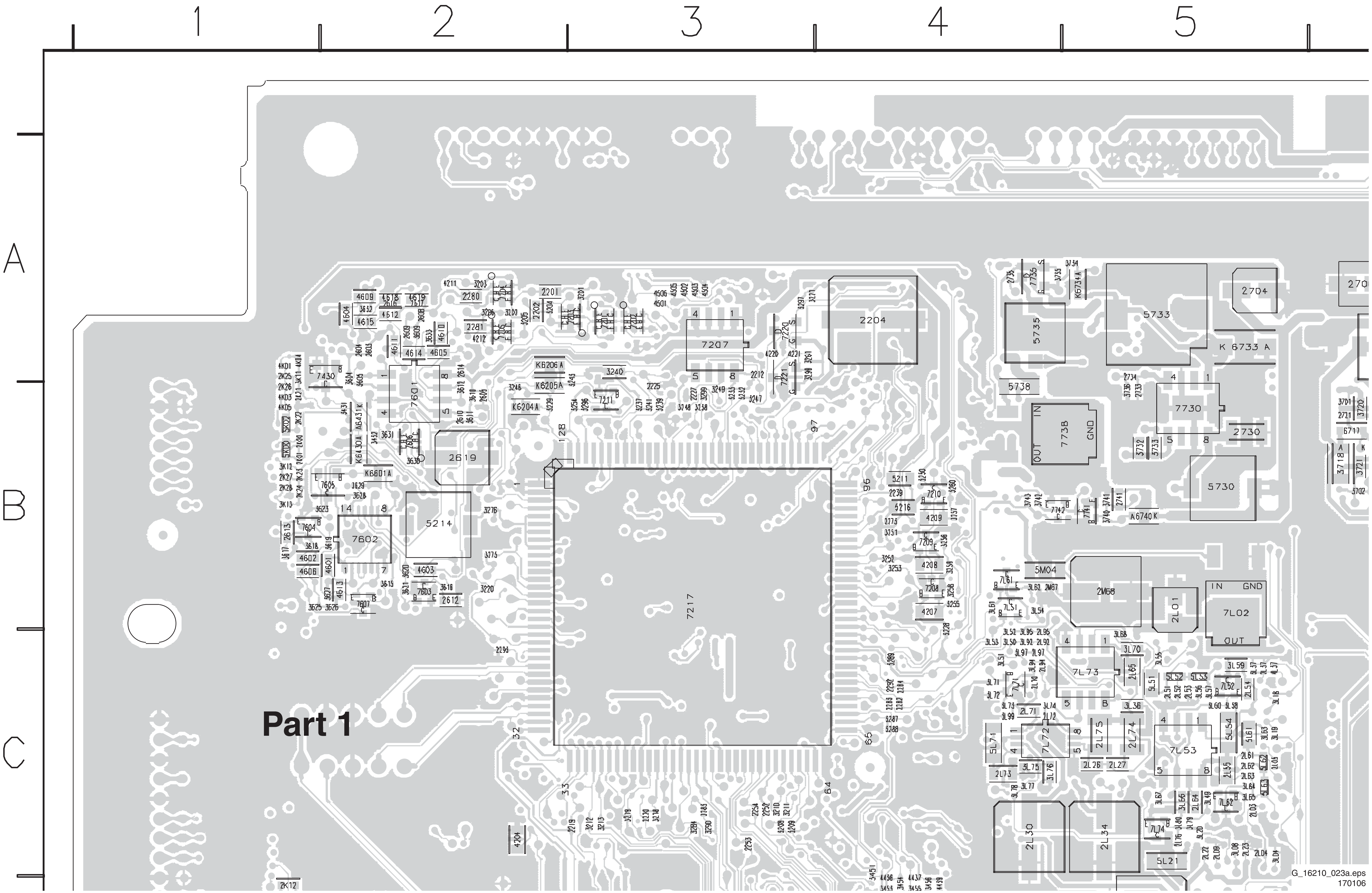
G_16210_022d.eps
170106

Layout Small Signal Board (Bottom Side Overview)

1151	F2
1177	F3
1802	C8
1C00	D6
1N02	B10
1N11	A9
1N12	A9
1N13	A9
1N14	A9
1N15	A9
1N19	B10
2151	E2
2152	E2
2153	E2
2154	F2
2155	E2
2156	E2
2157	E2
2158	E2
2159	F2
2160	E2
2201	A2
2202	A2
2204	A4
2212	A3
2219	C3
2220	C3
2225	B3
2227	B3
2239	B4
2252	C3
2253	C3
2254	C3
2273	B4
2280	A2
2281	A2
2282	C4
2283	C4
2284	C4
2292	C4
2293	C2
2449	D4
2603	A2
2604	A2
2605	B2
2608	A2
2609	A2
2610	B2
2612	B2
2613	B1
2614	A2
2616	A2
2617	A2
2619	B2
2700	B8
2701	A8
2702	B6
2704	A5
2706	A6
2708	A6
2709	A6
2717	B6
2718	B6
2719	B6
2720	B6
2721	B6
2722	B6
2723	B6
2727	B6
2730	B5
2733	B5
2734	A5
2735	A4
2741	B5
2749	B8
2750	B7
2751	B7
2752	B7
2759	B6
2760	B7
2761	B7
2762	B7
2800	D9
2801	C8
2802	C8
2803	C8
2804	C8
2805	C8
2806	C8
2807	D8
2808	D8
2809	D8
2810	D8
2811	D8
2812	D8
2813	C8
2814	D8
2816	D7
2817	D7
2818	D7
2819	D7
2820	D7
2821	D7
2822	D7
2823	D7
2824	D7
2900	C10
2905	C7
2906	C7
2907	C7
2908	C7
2909	C7
2910	C7
2911	C7
2912	C7
2913	C7
2914	D8
2915	D8
2916	D8
2917	D8
2918	D7
2919	D7
2920	D8
2921	D8
2922	D8
2923	C8
2924	C8
2925	C8
2926	C8
2927	C7
2928	C7
2929	C7
2930	D7
2931	D7
2932	D7
2933	D7
2935	D7
2936	D7
2937	D7
2938	D7
2939	D7
2941	D8
2942	D7
2945	C8
2946	C8
2947	C8
2948	C8
2949	C8
2950	C8
2951	C8
2952	C8
2953	D7
2954	D7
2955	D7
2956	D7
2957	D7
2958	D7
2959	D7
2A03	D8
2B03	C9
2B04	C9
2B06	C9
2B07	C9
2B08	C9
2B09	D9
2B10	D9
2B11	D9
2B12	D9
2B13	C9
2B14	D9
2B15	C9
2B16	C9
2C00	C7
2C01	C7
2C02	C7
2C03	D7
2C04	C6
2C05	C6
2D00	E10
2D01	E10
2D08	D10
2D09	E9
2D10	E10
2D11	E9
2D12	E10
2D13	E9
2D14	D9
2D15	D10
2D16	D9
2D17	E9
2D18	E9
2D21	E9
2D22	E9
2D23	E9
2D24	E9
2D25	E10
2D29	E10
2D30	E9
2D31	E9
2D32	E10
2D34	E9
2D35	E9
2D36	E9
2D37	E9
2D38	E9
2D39	E9
2D45	D9
2D48	E9
2D49	E9
2D51	D9
2D53	E9
2D55	E9
2D56	D10
2D57	D10
2D58	E10
2D59	E10
2E00	E7
2E01	E7
2E02	E7
2E03	E7
2E04	E7
2E05	E8
2E06	E8
2E07	E7
2E08	E7
2E09	E8
2E10	E8
2E11	E8
2E12	E8
2E13	E7
2E14	E7
2E15	E7
2E16	E8
2E17	E8
2E18	E8
2E19	E8
2E21	E7
2E22	E7
2E23	E7
2E24	D7
2E25	D7
2E26	D7
2E27	D7
2E28	D7
2E29	D7
2E30	D7
2E33	E7
2E34	E7
2E35	E7
2F01	E4
2F02	E4
2F03	E3
2F04	E4
2F13	E9
2F14	F9
2F15	E9
2F16	E9
2G08	E4
2G09	E5
2G10	E4
2G11	E5
2G12	E4
2G13	E4
2G14	E4
2G15	E3
2G16	E7
2G17	E6
2G24	F8
2G25	E7
2G26	E7
2G27	F7
2G28	E7
2G44	E5
2G46	E5
2G47	F8
2G54	E7
2G55	F8
2G56	E8
2G57	F8
2G58	E6
2G60	E6
2G61	E6
2G65	F8
2G66	E8
2G67	E5
2G68	E7
2G69	E6
2G70	E4
2G72	E6
2K00	B1
2K01	B1
2K10	D1
2K11	D1
2K12	D1
2K13	D1
2K14	D1
2K15	D1
2K16	D1
2K17	D1
2K18	D1
2K21	B1
2K22	B1
2K23	B1
2K24	B1
2K25	A1
2K26	B1
2K27	B1
2K28	B1
2L01	B5
2L03	C5
2L04	C5
2L05	C5
2L09	C5
2L10	C4
2L21	D5
2L22	C5
2L23	C5
2L24	D5
2L26	C5
2L27	C5
2L30	C4
2L34	C5
2L37	C5
2L51	C5
2L52	C5
2L53	C5
2L54	C5
2L55	C5
2L61	C5
2L62	C5
2L63	C5
2L64	C5
2L65	C5
2L71	C4
2L72	C4
2L73	C4
2L74	C5
2L75	C5
2L76	C5
2L77	E4
2L78	D4
2L79	E4
2L92	C4
2L94	C4
2L95	C4
2L97	C4
2M00	D5
2M01	D5
2M02	D5
2M03	D5
2M04	D5
2M05	D5
2M06	D5
2M07	D5
2M08	D5
2M09	D5
2M10	D5
2M11	D5
2M12	D5
2M13	D5
2M14	D5
2M15	D5
2M16	D5
2M17	D5
2M18	D5
2M19	D5
2M20	D5
2M21	D5
2M22	E5
2M23	E5
2M24	D5
2M25	D4
2M26	D4
2M30	D4
2M31	D5
2M32	D4
2M33	D5
2M56	D5
2M65	D4
2M66	D4
2M67	B4
2M68	B5
2N01	B9
2N02	B9
2N03	B9
2N04	B9
2N05	B9
2N06	B9
2N07	B9
2N08	A9
2N09	B9
2N10	A9
2N11	A9
2N12	A10
2N13	A10
2N14	B10
2N15	B10
2N16	B10
2N19	A9
2N20	B9
2N21	B9
2N22	B9
2N23	B10
2N26	B9
2N27	B9
2N28	A9
2N29	A9
2N30	B9
2N31	A9
2N32	A9
2N33	B9
2N35	B10
2N36	B10
2N37	B10
2N38	B9
2N39	B10
2N40	B10
2N41	B10
2N42	B10
2N43	B10
2N44	B9
2N45	B9
2N46	B9
2N47	B9
2N48	B9
2N49	B9
2N50	B9
2N51	B9
2N54	A9
2N55	B9
2N56	B9
2N57	B9
2N58	B9
2N59	B9
2N60	A9
2N61	A9
2N62	A9
2N63	A9
2N64	A9
2N65	A9
2N66	A9
2N67	B9
2N69	B9
2N75	B9
2N76	B9
2N80	A9
2N81	A9
2N82	A9
2N83	A9
2N84	A9
2N85	A9
2N86	A9
2N87	A9
2N88	A9
2N89	A9
3151	E2
3152	E2
3153	E2
3154	F2
3155	E2
3156	E2
3157	E2
3158	E2
3159	E2
3161	D2
3162	D2
3163	F2
3164	E2
3170	F3
3171	F3
3172	F2
3173	F3
3201	A3
3202	A2
3203	A2
3204	A2
3205	A2
3206	A2
3208	C3
3209	C3
3210	C3
3211	C3
3212	C3
3213	C3
3218	C3
3219	C3
3220	B2
3221	A3
3228	C4
3229	B2
3232	B3
3233	B3
3237	B3
3238	B3
3239	B3
3240	A3
3241	B3
3243	A3
3246	B2
3247	B3
3248	B3
3249	B3
3250	B4
3251	B4
3252	B4
3253	B4
3254	B3
3255	B4
3256	B4
3257	B4
3258	B4
3259	B4
3260	B4
3261	A3
3275	B2
3276	B2
3283	C3
3284	C3
3287	C4
3288	C4
3289	C4
3290	C3
3296	B3
3297	A3
3298	A3
3299	B3
3431	B2
3432	B2
3451	C4
3453	D4
3454	D4
3455	D4
3456	D4
3458	D4
3459	D4
3461	D4
3462	D4
3463	D4
3604	A2
3605	A2
3609	A2
3610	B2
3611	B2
3612	B2
3615	B2
3616	B2
3617	B1
3618	B1
3619	B2
3620	B2
3621	B2
3623	B2
3625	B1
3626	B2
3627	B2
3628	B2
3629	B2
3630	B2
3631	B2
3632	A2
3633	A2
3701	B6
3702	B6
3709	A6
3718	B6
3719	B6
3720	B6
3721	B6
3722	B6
3724	B6
3725	B6
3726	B6
3727	B6
3732	B5
3733	B5
3734	A5
3735	A4
3736	B5
3740	B5
3741	B5
3742	B4
3743	B4
3750	B7
3755	B7
3758	B8
3759	B7
3760	B7
3761	B7
3800	C7
3817	C7
3818	C7
3819	D8
3820	D8
3822	D8
3823	D8
3824	D7
3825	C7
3826	C7
3827	C7
3828	D7
3829	C7
3830	C7
3831	C7
3832	C7
3834	C7
3835	C7
3836	C7
3837	C7
3838	C7
3839	D8
3840	D8
3841	C8
3900	C8
3901	D7
3902	D7
3903	D7
3904	D7
3A02	D8
3A03	D8
3A04	D8
3A05	D8
3A06	D8
3C00	C7
3C01	D7
3C02	D7
3C03	D7
3C04	C6
3C05	C6
3C06	C6
3C07	C6
3C08	C6
3C09	C6
3C10	C6
3C16	C6
3C17	C6
3C18	C6
3C19	C6
3C20	C6
3C21	C6
3C22	C6
3C23	C6
3D00	E10
3D01	E10
3D02	E10
3D03	E10
3D07	E10
3D08	E10
3D09	E10
3D10	E10
3D19	D9
3D20	E9
3D22	E9
3D24	E10
3D26	E10
3D27	D9
3E00	E7
3E01	E7
3E02	E7
3E06	E7
3E07	E7
3E08	E7
3E09	E7
3E10	E7
3E11	E7
3E12	E7
3E13	E7
3E14	E8
3E15	E8
3E16	E8
3E17	E8
3E18	E8
3E19	E7
3E20	E8
3E21	E8
3E22	E7
3E23	E8
3E24	D7
3E25	D7
3E26	D7
3E27	D7
3E28	D7
3E29	D7
3E30	D7
3E40	D7
3E41	D7
3E42	D7
3E50	E7
3E51	E7
3E52	E7
3E53	E7
3E54	E7
3E55	E7
3F05	E3
3F06	E3
3F07	E3
3F08	E3
3F09	E4
3F10	E4
3F11	E4
3F12	E4
3F13	E3
3F14	E3
3F15	E3
3F16	E3
3F17	E4
3F18	E4
3F19	E4
3F20	E4
3F24	F9
3F25	F9
3F26	F9
3F27	F9
3G04	E5
3G05	E4
3G11	E4
3G12	E4
3G13	E4
3G14	E4
3G15	E4
3G16	E3
3G17	E3
3G18	E7
3G19	E6
3G20	E7
3G21	E6
3G26	E7
3G27	E7
3G39	E4
3G58	E4
3G70	E6
3G72	E5
3G75	E8
3G76	E8
3G77	E8
3G78	F8
3G88	E5
3G90	E5
3G91	E5
3G92	F8
3G93	E8
3G94	F8
3G95	F8
3G96	F8
3G99	F8
3K05	D1
3K06	D1
3K07	D1
3K08	D1
3K09	D1
3K11	A1
3K12	B1
3K13	B1
3L04	C5
3L08	C5
3L18	C5
3L19	C5
3L20	C5
3L36	C5
3L37	C5
3L49	C5
3L50	C4
3L51	C4
3L52	C4
3L53	C4
3L54	B4
3L55	C5
3L56	C5
3L57	C5
3L58	C5
3L59	C5
3L60	C5
3L61	B4
3L62	B4
3L63	C5
3L64	C5
3L65	C5
3L66	C5
3L67	C5
3L68	C5
3L69	D4
3L70	C5
3L71	C4
3L72	C4
3L73	C4
3L74	C4
3L75	C4
3L76	C4
3L77	C4
3L78	C4
3L79	C5
3L80	C5
3L81	D4
3L82	E4
3L83	D4
3L84	E4
3L85	E4
3L86	D4
3L87	E4
3L88	E4
3L89	E4
3L90	E4
3L91	E4
3L92	C4
3L94	C4
3L95	C4
3L97	C4
3L99	C4
3M10	D5
3M11	D5
3M12	D5
3M13	D5
3M14	D5
3M15	D5
3M28	D5
3M29	D5
3M50	D5
3M51	D5
3M52	D5
3M53	D5
3M54	D5
3M55	D5
3M56	D5
3M57	D5
3M58	D5
3M59	D5
3M78	D5
3M79	D5
3M86	D5
3M87	D5
3M88	D5
3M90	D5
3N10	B10
3N11	B10
3N12	B9
3N19	B9
3N27	A10
3N28	A10
3N29	B10
3N71	B9
3N72	B9
3N73	B9
3S00	F8
3S03	F8
3S04	E5
3S05	E5
3S06	E5
3S07	E5
3S08	E5
3S09	E7
3S10	F8
3S11	E6
3S12	E6
3S13	E6
3S14	E6
3S15	E6
3S16	E6
3S17	E6
3S18	E6
3S19	E6
3S20	E6
3S23	E4
3S24	E5
3S25	E5
3S26	E5
3S28	E5
3S29	E5
3S30	E6
3S31	E6
3S32	E6
3S33	E6
3S34	E6
3S35	E6
3S36	E6
4151	D3
4152	D3
4204	C2
4207	B4
4208	B4
4209	B4
4211	A2
4212	A2
4220	A3
4221	A3
4436	D4
4437	D4
4439	D4
4440	D4
4441	D4
4501	A3
4502	A3
4503	A3
4504	A3
4505	A3
4506	A3
4601	B2
4602	B1
4603	B2
4604	A2
4605	A2
4606	B1
4609	A2
4610	A2
4611	A2
4612	A2
4613	B2
4614	A2
4615	A2
4618	A2
4619	A2
4801	D8
4A02	D8
4A03	D8
4D02	E9
4D03	E9
4D04	E10
4D05	E10
4D06	E10
4G05	E4
4G07	E6
4G08	E6
4G09	E6
4G20	F8
4G21	E8
4G24	E5
4G25	E5
4G26	E5
4G27	E5
4G28	E5
4G29	E6
4G30	E6
4G31	E7
4K01	A1
4K02	D1
4K03	B1
4K04	A1
4K05	B1
4L37	C5
4M04	D5
4M05	D5
4M06	D5
4M08	D5
4M09	D5
4M10	D4
4M16	D5
4M17	D5
4N11	B9
4N12	B10
4N13	B9
4N34	B10
4N35	B10
5151	E2
5152	E2
5153	E2
5157	E2
5158	E2
5211	B4
5214	B2
5216	B4
5700	A8
5704	A6
5709	A6
5713	B6
5730	B5
5733	A5
5735	A4
5738	B4
5751	A7
5754	B7
5756	B8
5757	B7
5901	D8
5903	C7
5905	C8
5906	C8
5907	C8
5908	C10
5909	D7
5910	D7
5911	D8
5C00	C7
5D03	D9
5D04	E9
5D05	E9
5E00	E7
5E01	E8
5E02	E7
5G01	E5
5G04	E4
5G06	F8
5G07	E4
5K00	B1
5K02	B1
5L21	C5
5L51	C5
5L52	C5
5L53	C5
5L54	C5
5L61	C5
5L62	C5
5L63	C5
5L71	C4
5M00	E4
5M01	D5
5M02	D5
5M03	D4
5M04	B4
5M05	D4
5N03	B8
5N04	A8
5N05	A8
5N06	A8
5N07	B9
5N10	A10
5N11	A8
5N12	A9
5N72	B9
6151	E2
6152	E2
6153	E2
6154	D2
6176	F3
6177	F2
6204	B2
6205	B2
6206	A2
6430	B2
6431	B2
6601	B2
6717	B6
6733	A5
6734	A5
6740	B5
6G01	E5
6G02	E5
6G03	E5
6G04	E5
6G05	E3
6G06	E7
6G07	E7
6G08	E7
6G09	E7
6G11	E6
6G16	E7
6G17	E7
6G18	E7
6G19	E7
6G20	E7
6G21	E7
6N19	B9
7151	D2
7201	A3
7202	A3
7203	A3
7204	A2
7205	A2
7207	A3
7208	B4
7209	B4
7210	B4
7211	B3
7217	B3
7220	A3
7221	A3
7430	A2
7436	D4
7601	B2
7602	B2
7603	B2
7604	B1
7605	B2
7606	B2
7607	B2
7708	A7
7710	B6
7730	B5
7735	A4
7738	B5
7741	B5
7742	B4
7754	B7
7755	B8
7756	B7
7758	B7
7900	C10
7A01	D8
7C01	D7
7C02	D7
7D00	E10
7D01	E10
7D02	E9
7D04	E9
7D05	D10
7E00	E7
7E01	E8
7E02	E7
7F03	E3
7G01	E4
7G07	E6
7G08	E6
7G11	F8
7G12	E6
7G13	E6
7L02	B5
7L51	B4
7L52	C5
7L53	C5
7L61	B4
7L62	C5
7L71	C4
7L72	C4
7L73	C5
7L74	C5
7L80	E4
7L81	E4
7M03	E5
7M17	D5
7N02	B9
7N03	B8
7N04	A8

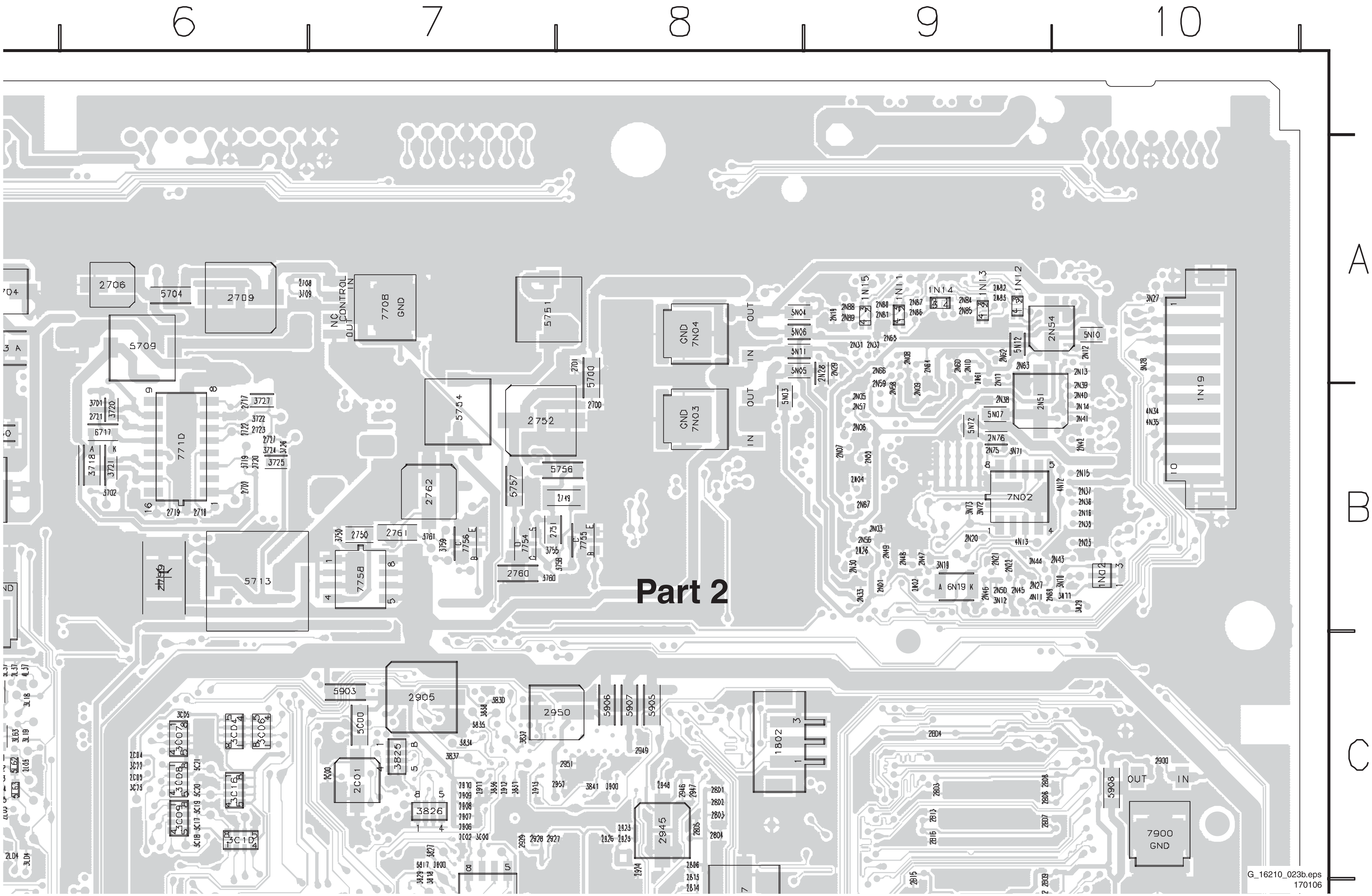


Layout Small Signal Board (Bottom Side Part 1)

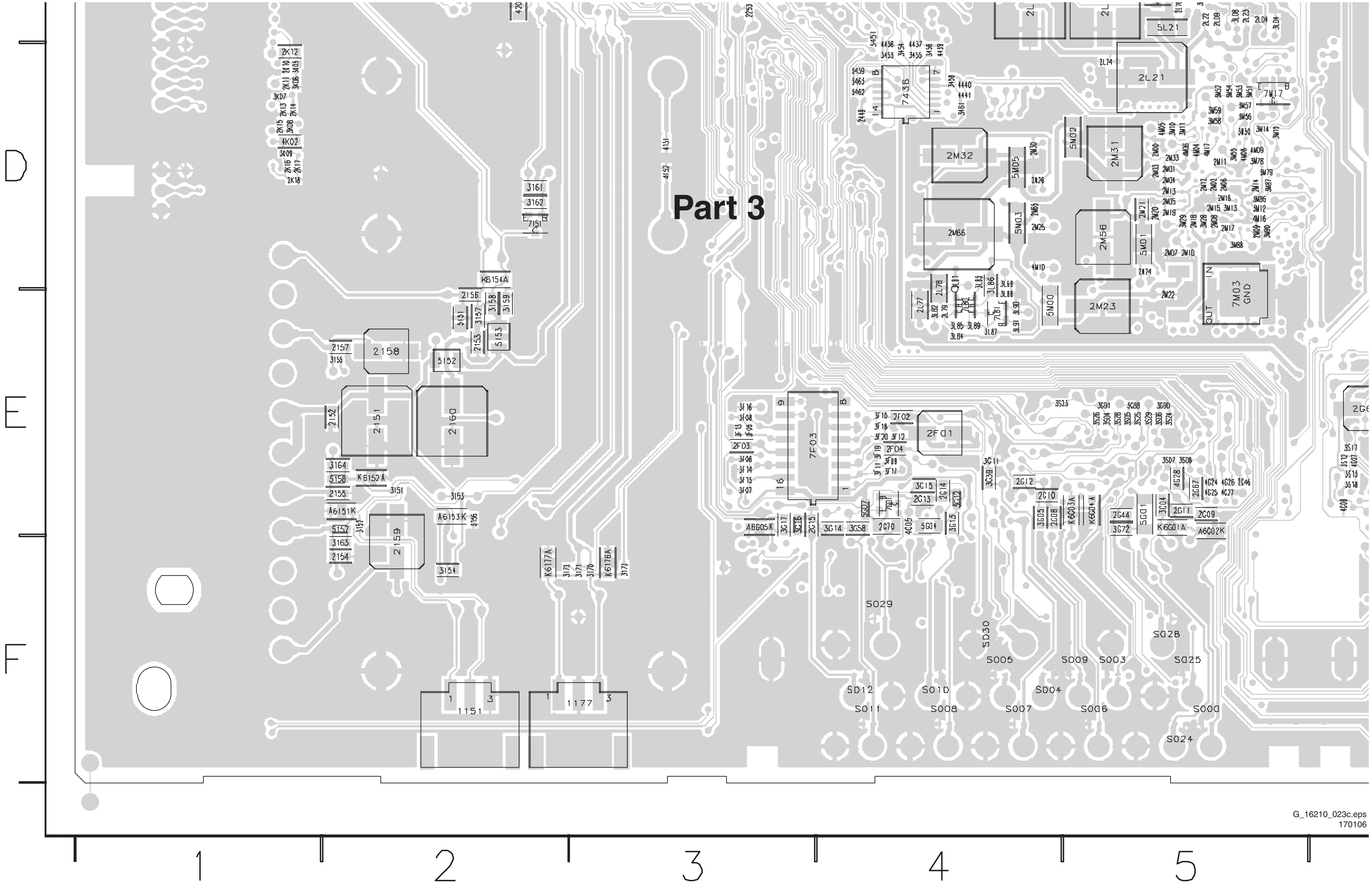

1
2
3
4
5
A
B
C
Part 1
7217
2204
7207
5733
5735
5738
7738
7730
2730
5730
2704
K 6733 A
7601
7602
7430
2619
5214
5M04
2M66
2L01
7L02
7L73
7L72
7L53
2L30
2L34
5L21
128
97
96
65
64
33
32
1

G_16210_023a.eps
170106

Layout Small Signal Board (Bottom Side Part 2)

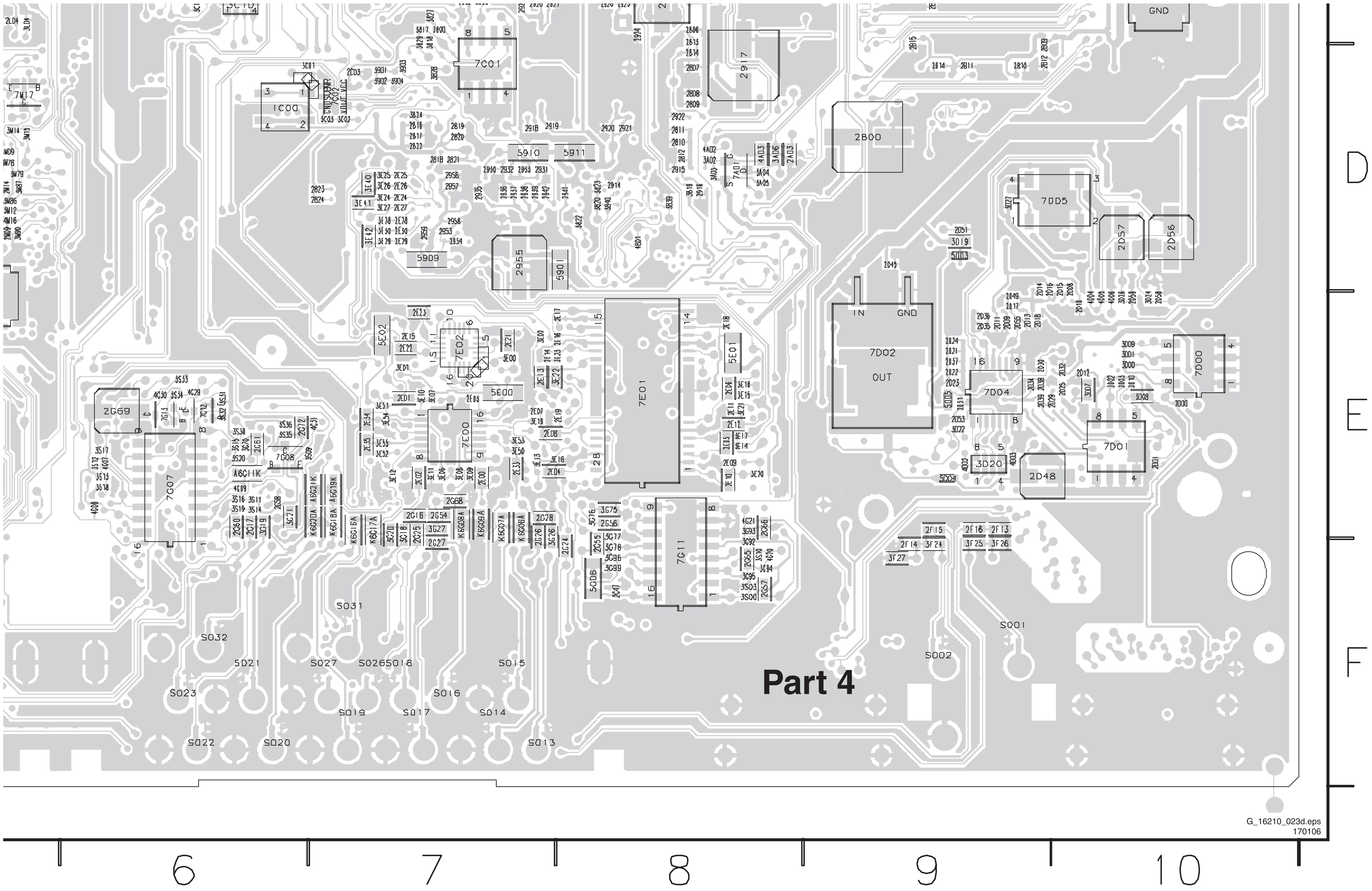

6
7
8
9
10
A
B
C
Part 2
2706
5704
2709
5709
7710
5713
7758
7708
GND
NC
CONTROL
OUT
IN
5751
5754
2752
2762
5756
5757
2760
2761
2750
5700
2700
7N04
7N03
GND
OUT
IN
5N04
5N06
5N11
5N05
5N13
1N15
1N11
1N14
1N13
1N12
2N54
5N10
2N51
5N07
7N02
1N19
6N19
1N02
2905
5903
5C00
3825
2C01
3826
2950
5906
5907
5905
2945
1802
5908
7900
GND
OUT
IN
3C07
3C08
3C09
3C04
3C06
3C16
3C1D
G_16210_023b.eps
170106

Layout Small Signal Board (Bottom Side Part 3)


Part 3
D
E
F
1
2
3
4
5
2158
2151
2160
2159
5152
5153
3161
3162
7151
K6154A
2156
2157
2152
3164
5158
K6152A
2155
A6151K
A6153K
3157
3163
2154
3154
K6177A
K6176A
1151
1177
2M32
2M31
2M86
2M56
2M23
2L21
5L21
7M17
7M03
IN
GND
OUT
7436
5M02
5M05
5M03
5M01
5M00
7F03
2F01
2F02
2F03
2F04
2G12
2G10
2G09
2G11
2G44
3G72
5G01
K6G01A
A6G02K
K6G03A
K6G04A
A6G05K
3G14
3G58
2G70
5G04
5029
5030
5005
5009
5003
5028
5025
5012
5010
5004
5011
5008
5007
5006
5000
5024
2K12
4K02

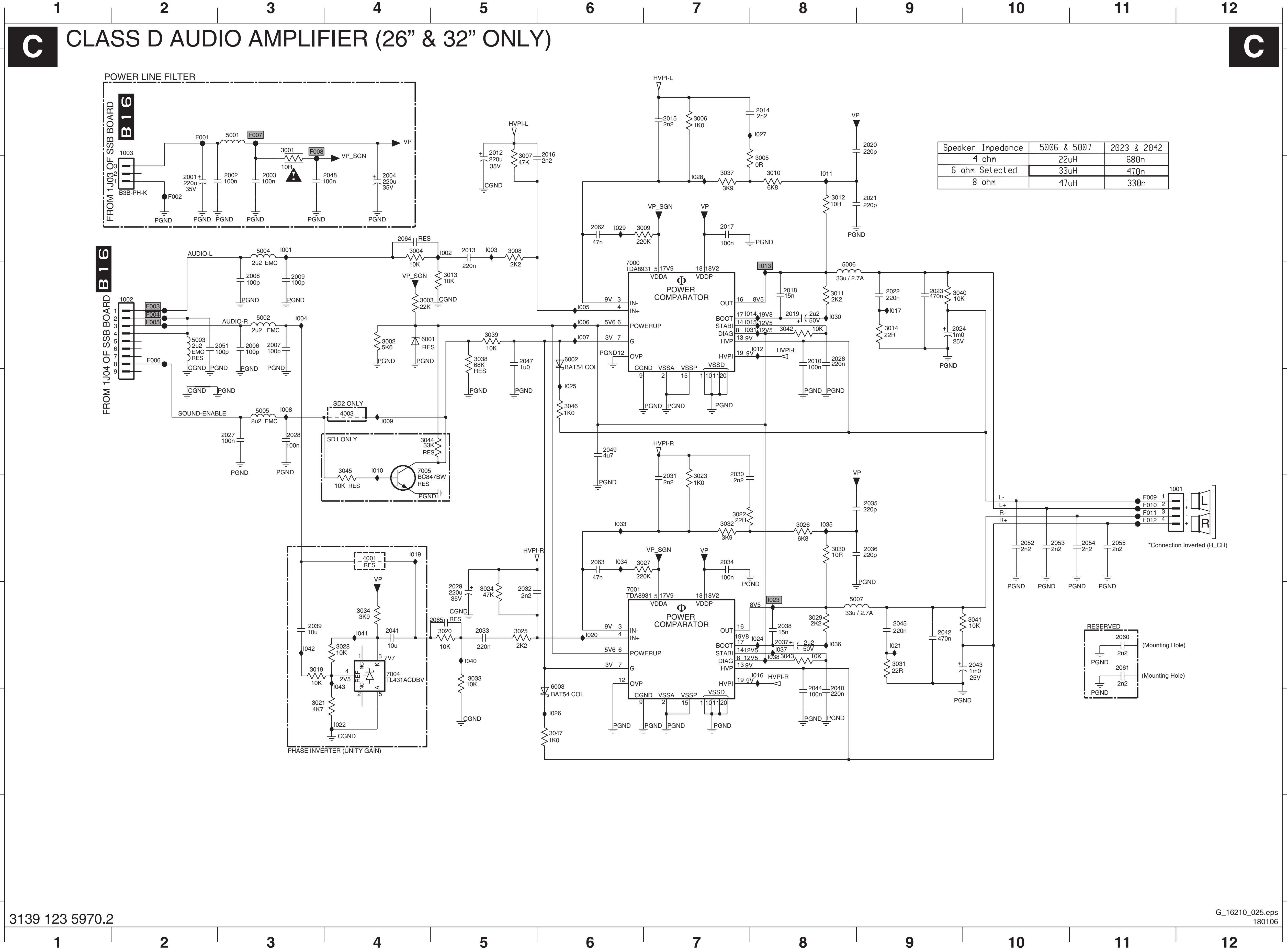
G_16210_023c.eps
170106

Layout Small Signal Board (Bottom Side Part 4)


Part 4
GND
7C01
1C00
2917
2800
5910
5911
7A01
7D05
2D57
2D56
2955
5901
5909
7D02
IN
GND
OUT
7D04
7D00
7D01
3D20
2D48
7E01
7E02
7E00
5E01
5E02
5E00
2G69
7G07
7G08
7G11
S001
S002
S013
S014
S015
S016
S017
S018
S019
S020
S021
S022
S023
S026
S027
S031
S032
D
E
F
6
7
8
9
10

G_16210_023d.eps
170106

Class D Audio Amplifier (26” & 32”)

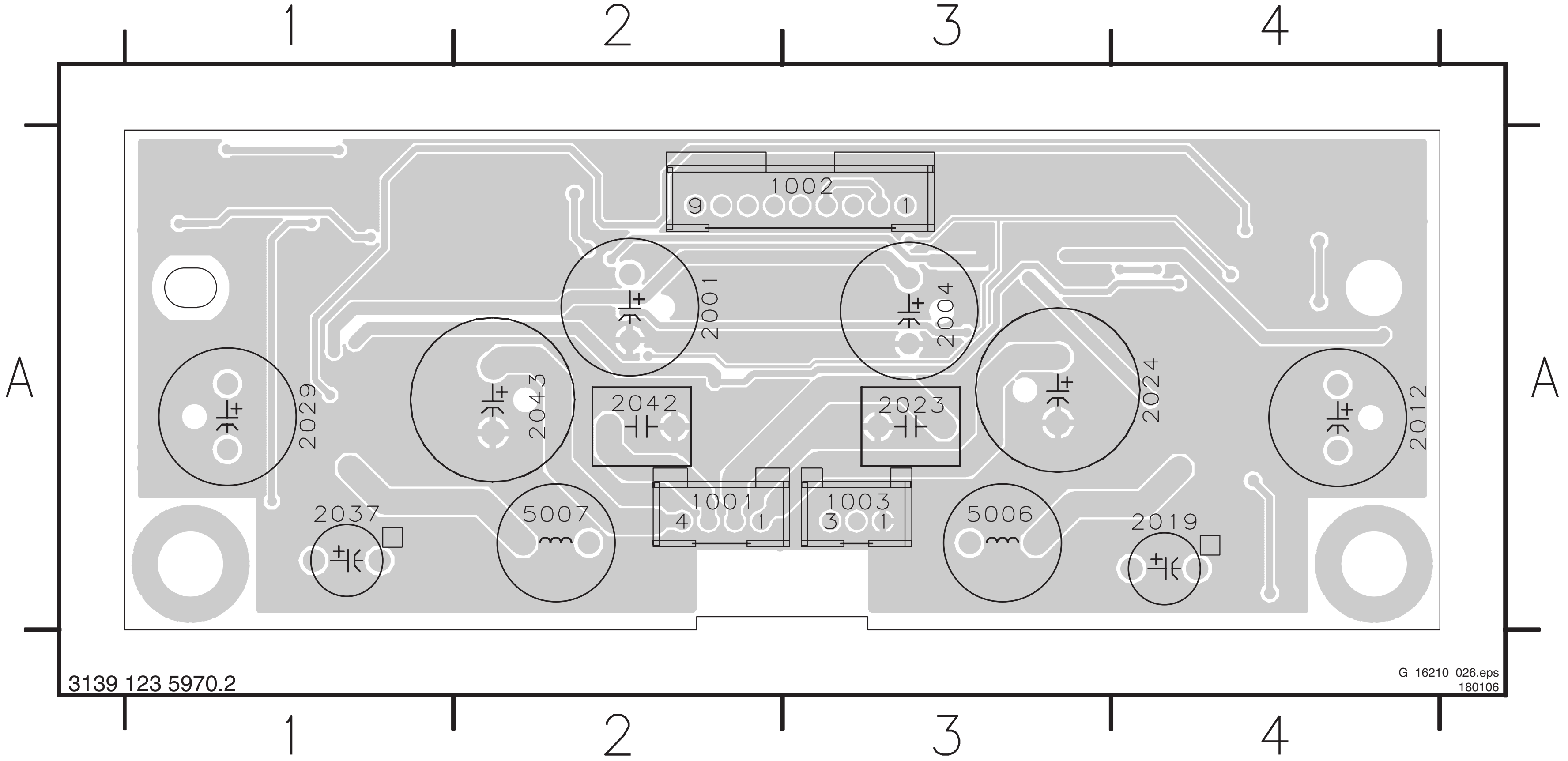

C
CLASS D AUDIO AMPLIFIER (26” & 32” ONLY)
C
POWER LINE FILTER
FROM 1J03 OF SSB BOARD
B16
FROM 1J04 OF SSB BOARD
B16
AUDIO-L
AUDIO-R
SOUND-ENABLE
SD2 ONLY
SD1 ONLY
PHASE INVERTER (UNITY GAIN)
7000
TDA8931
7001
TDA8931
POWER COMPARATOR
7004
TL431ACDBV
7005
BC847BW
HVPI-L
HVPI-R
VP
VP_SGN
PGND
CGND
RESERVED
(Mounting Hole)
(Mounting Hole)
*Connection Inverted (R_CH)
L
R
3139 123 5970.2
G_16210_025.eps
180106

Speaker Impedance	5006 & 5007	2023 & 2042
4 ohm	22uH	680n
6 ohm Selected	33uH	470n
8 ohm	47uH	330n

1001	E12
1002	C2
1003	A2
2001	B2
2002	B3
2003	B3
2004	B4
2006	C3
2007	C3
2008	C3
2009	C3
2010	C8
2012	A5
2013	B5
2014	A8
2015	A7
2016	A6
2017	B7
2018	C8
2019	C8
2020	A9
2021	B9
2022	C9
2023	C9
2024	C9
2026	C8
2027	D3
2028	D3
2029	F5
2030	D7
2031	E7
2032	F5
2033	F5
2034	E7
2035	E9
2036	E9
2037	F8
2038	F8
2039	F3
2040	G8
2041	F4
2042	F9
2043	F10
2044	G8
2045	F9
2047	C5
2048	B4
2049	D6
2051	C3
2052	E10
2053	E10
2054	E11
2055	E11
2060	F11
2061	F11
2062	B6
2063	E6
2064	B4
2065	F5
3001	A3
3002	C4
3003	C4
3004	B4
3005	B8
3006	A7
3007	B5
3008	B5
3009	B7
3010	B8
3011	C8
3012	B8
3013	C5
3014	C9
3019	F3
3020	F5
3021	G3
3022	E7
3023	E7
3024	F5
3025	F5
3026	E8
3027	E7
3028	F4
3029	F8
3030	E8
3031	F9
3032	E7
3033	F5
3034	F4
3037	B7
3038	C5
3039	C5
3040	C9
3041	F10
3042	C8
3043	F8
3044	D4
3045	D4
3046	D6
3047	G6
4001	E4
4003	D4
5001	A3
5002	C3
5003	C2
5004	B3
5005	D3
5006	C8
5007	F9
6001	C4
6002	C6
6003	F6
7000	C6
7001	F6
7004	F4
7005	D4
F001	A2
F002	B2
F003	C2
F004	C2
F005	C2
F006	C2
F007	A3
F008	A3
F009	E11
F010	E11
F011	E11
F012	E11
I001	B3
I002	B5
I003	B5
I004	C3
I005	C6
I006	C6
I007	C6
I008	D3
I009	D4
I010	D4
I011	B8
I012	C8
I013	C8
I014	C8
I015	C8
I016	F8
I017	C9
I019	E4
I020	F6
I021	F9
I022	G4
I023	F8
I024	F8
I025	D6
I026	G6
IXXX	F3
IXXX	F4
IXXX	F4
IXXX	F5
IXXX	B6
IXXX	E6
IXXX	E6
IXXX	B7
IXXX	A8
IXXX	C8
IXXX	C8
IXXX	E8
IXXX	F8
IXXX	F8
IXXX	F8

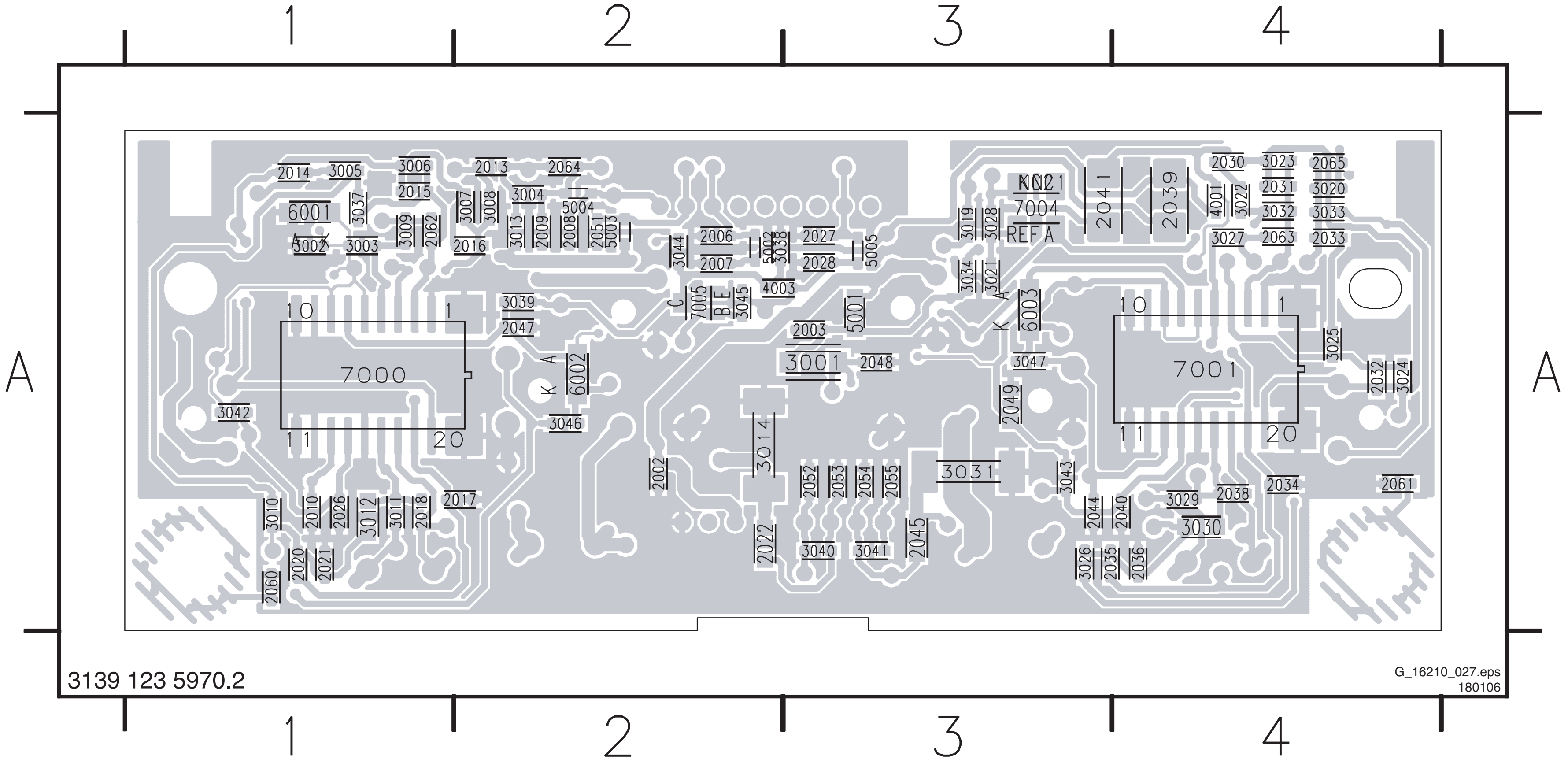
Layout Class D Audio Amplifier (26” & 32”) (Top Side)

1001	A2
1002	A3
1003	A3
2001	A2
2004	A3
2012	A4
2019	A4
2023	A3
2024	A4
2029	A1
2037	A1
2042	A2
2043	A2
5006	A3
5007	A2

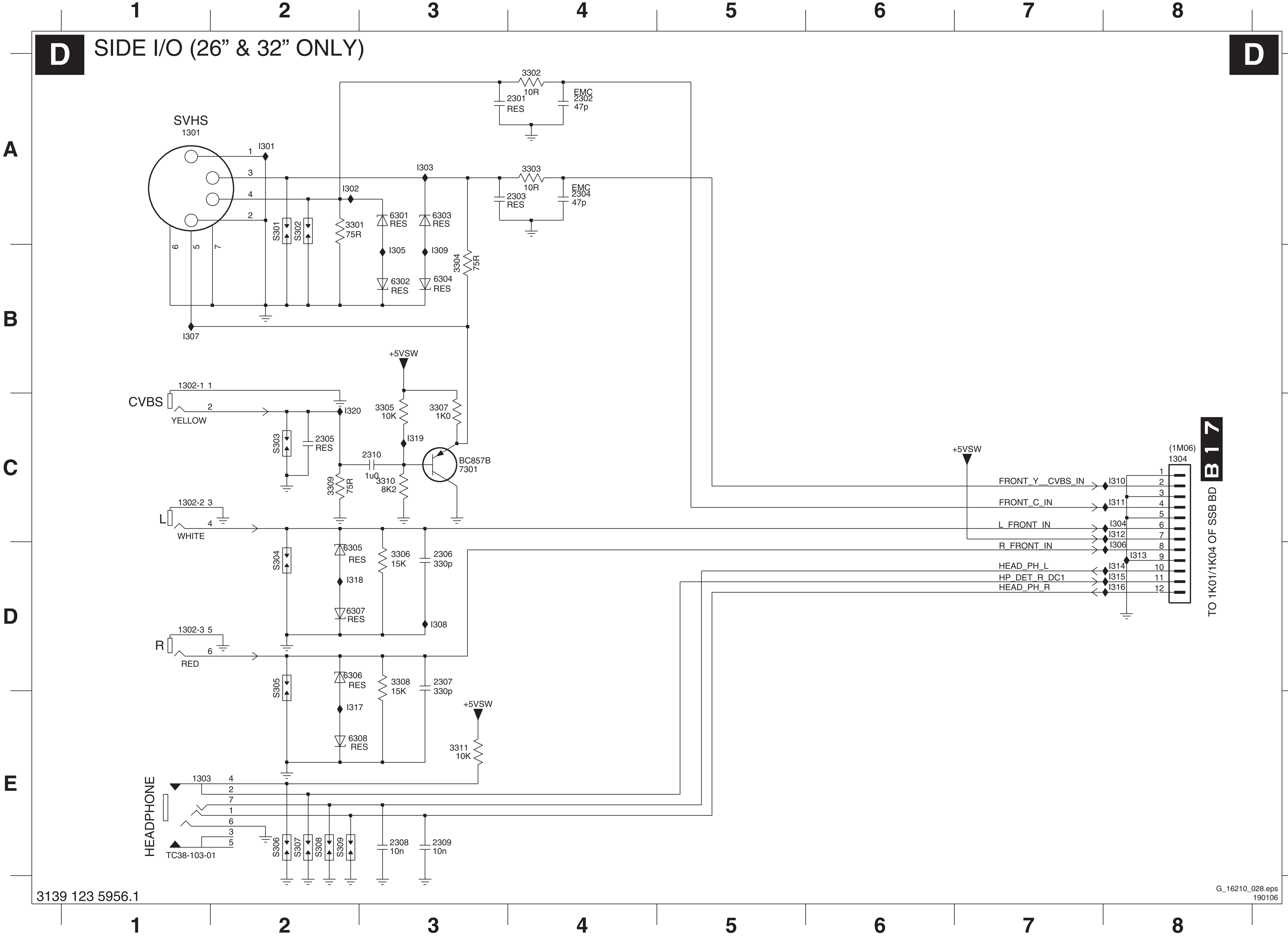

1
2
3
4
A
1002
9
1
2001
2004
2029
2043
2042
2023
2024
2012
2037
5007
1001
4
1
1003
3
1
5006
2019
3139 123 5970.2
G_16210_026.eps
180106

Layout Class D Audio Amplifier (26” & 32”) (Bottom Side)

2002	A2
2003	A3
2006	A2
2007	A2
2008	A2
2009	A2
2010	A1
2013	A2
2014	A1
2015	A1
2016	A2
2017	A2
2018	A1
2020	A1
2021	A1
2022	A2
2026	A1
2027	A3
2028	A3
2030	A4
2031	A4
2032	A4
2033	A4
2034	A4
2035	A3
2036	A4
2038	A4
2039	A4
2040	A4
2041	A3
2044	A3
2045	A3
2047	A2
2048	A3
2049	A3
2051	A2
2052	A3
2053	A3
2054	A3
2055	A3
2060	A1
2061	A4
2062	A1
2063	A4
2064	A2
2065	A4
3001	A3
3002	A1
3003	A1
3004	A2
3005	A1
3006	A1
3007	A2
3008	A2
3009	A1
3010	A1
3011	A1
3012	A1
3013	A2
3014	A2
3019	A3
3020	A4
3021	A3
3022	A4
3023	A4
3024	A4
3025	A4
3026	A3
3027	A4
3028	A3
3029	A4
3030	A4
3031	A3
3032	A4
3033	A4
3034	A3
3037	A1
3038	A2
3039	A2
3040	A3
3041	A3
3042	A1
3043	A3
3044	A2
3045	A2
3046	A2
3047	A3
4001	A4
4003	A2
5001	A3
5002	A2
5003	A2
5004	A2
5005	A3
6001	A1
6002	A2
6003	A3
7000	A1
7001	A4
7004	A3
7005	A2


1
2
3
4
A
7000
10
1
11
20
7001
10
1
11
20
6001
6002
6003
7004
7005
3001
3014
3031
3030
REFA
K
A
3139 123 5970.2
G_16210_027.eps
180106

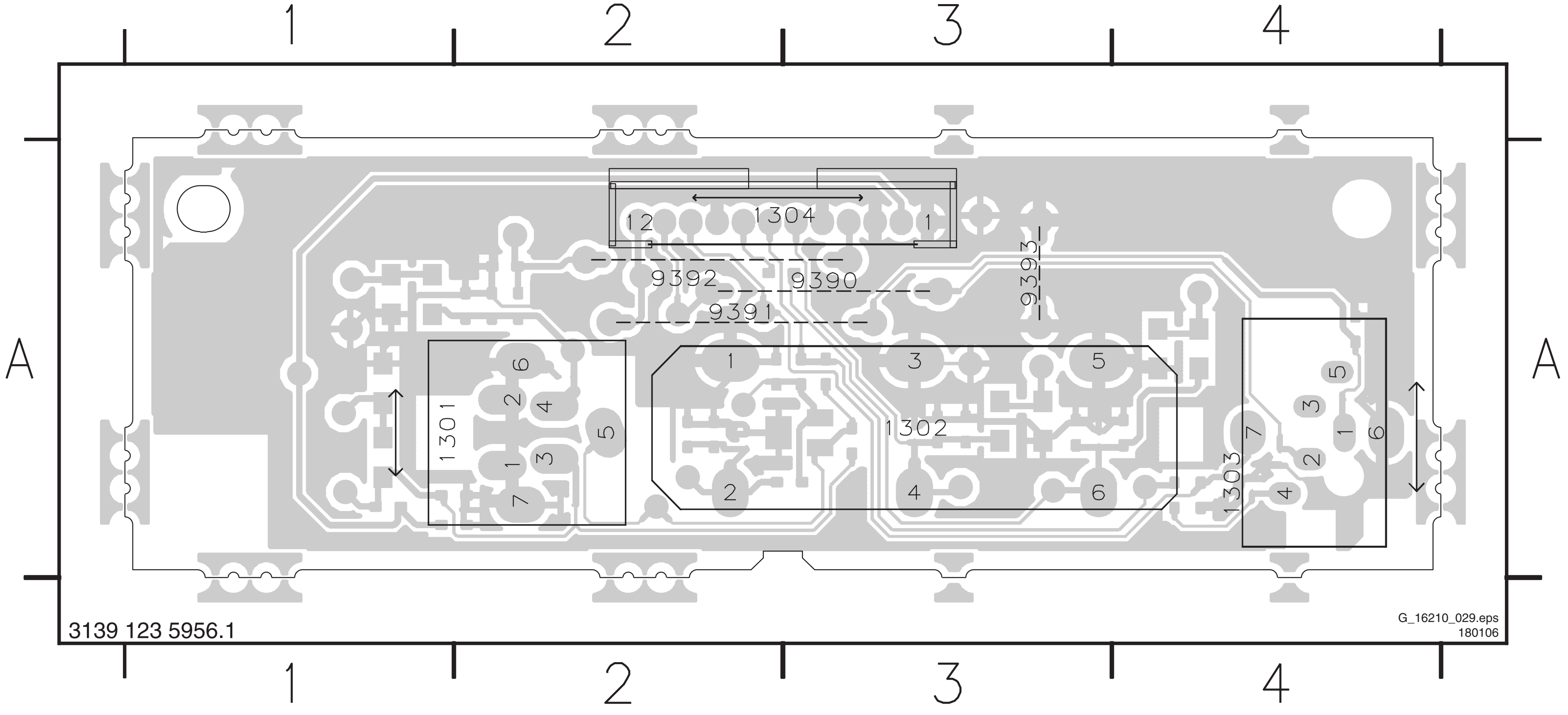
Side I/O Panel (26” & 32”)


D
SIDE I/O (26” & 32” ONLY)
1 2 3 4 5 6 7 8
A B C D E
SVHS
1301
I301
I302
I303
I307
S301
S302
3301 75R
6301 RES
6303 RES
I305
I309
6302 RES
6304 RES
3304 75R
3302 10R
2301 RES
EMC 2302 47p
3303 10R
2303 RES
EMC 2304 47p
+5VSW
CVBS
1302-1 1
YELLOW
I320
S303
2305 RES
3305 10K
3307 1K0
I319
2310 1u0
3309 75R
3310 8K2
BC857B 7301
L
1302-2 3
WHITE
S304
6305 RES
I318
6307 RES
3306 15K
2306 330p
I308
R
1302-3 5
RED
S305
6306 RES
I317
6308 RES
3308 15K
2307 330p
3311 10K
HEADPHONE
1303
TC38-103-01
S306
S307
S308
S309
2308 10n
2309 10n
FRONT_Y__CVBS_IN
FRONT_C_IN
L_FRONT_IN
R_FRONT_IN
HEAD_PH_L
HP_DET_R_DC1
HEAD_PH_R
I310
I311
I304
I312
I306
I313
I314
I315
I316
(1M06)
1304
B 1 7
TO 1K01/1K04 OF SSB BD
3139 123 5956.1
G_16210_028.eps
190106

1301	A1
1302-1	B1
1302-2	C1
1302-3	D1
1303	E1
1304	C8
2301	A4
2302	A4
2303	A4
2304	A4
2305	C2
2306	D3
2307	D3
2308	E3
2309	E3
2310	C3
3301	A2
3302	A4
3303	A4
3304	B3
3305	C3
3306	D3
3307	C3
3308	D3
3309	C2
3310	C3
3311	E3
6301	A3
6302	B3
6303	A3
6304	B3
6305	D2
6306	D2
6307	D2
6308	E2
7301	C3
I301	A2
I302	A2
I303	A3
I304	C8
I305	B3
I306	D8
I307	B1
I308	D3
I309	B3
I310	C8
I311	C8
I312	C8
I313	D8
I314	D8
I315	D8
I316	D8
I317	E2
I318	D2
I319	C3
I320	C2
S301	A2
S302	A2
S303	C2
S304	D2
S305	D2
S306	E2
S307	E2
S308	E2
S309	E2

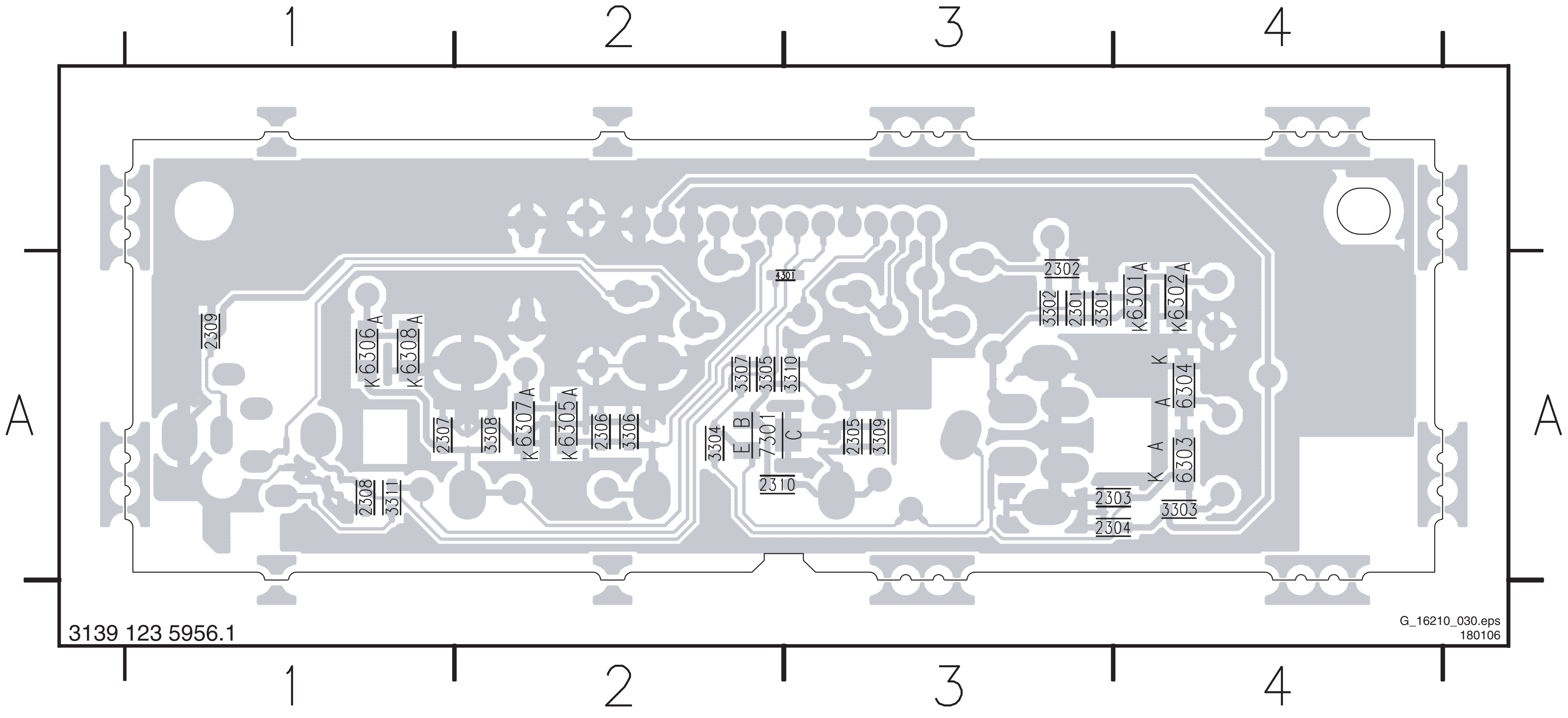
Layout Side I/O Panel (26” & 32”) (Top Side)

1301 A1	1302 A3	1303 A4	1304 A2	9390 A3	9391 A2	9392 A2	9393 A3

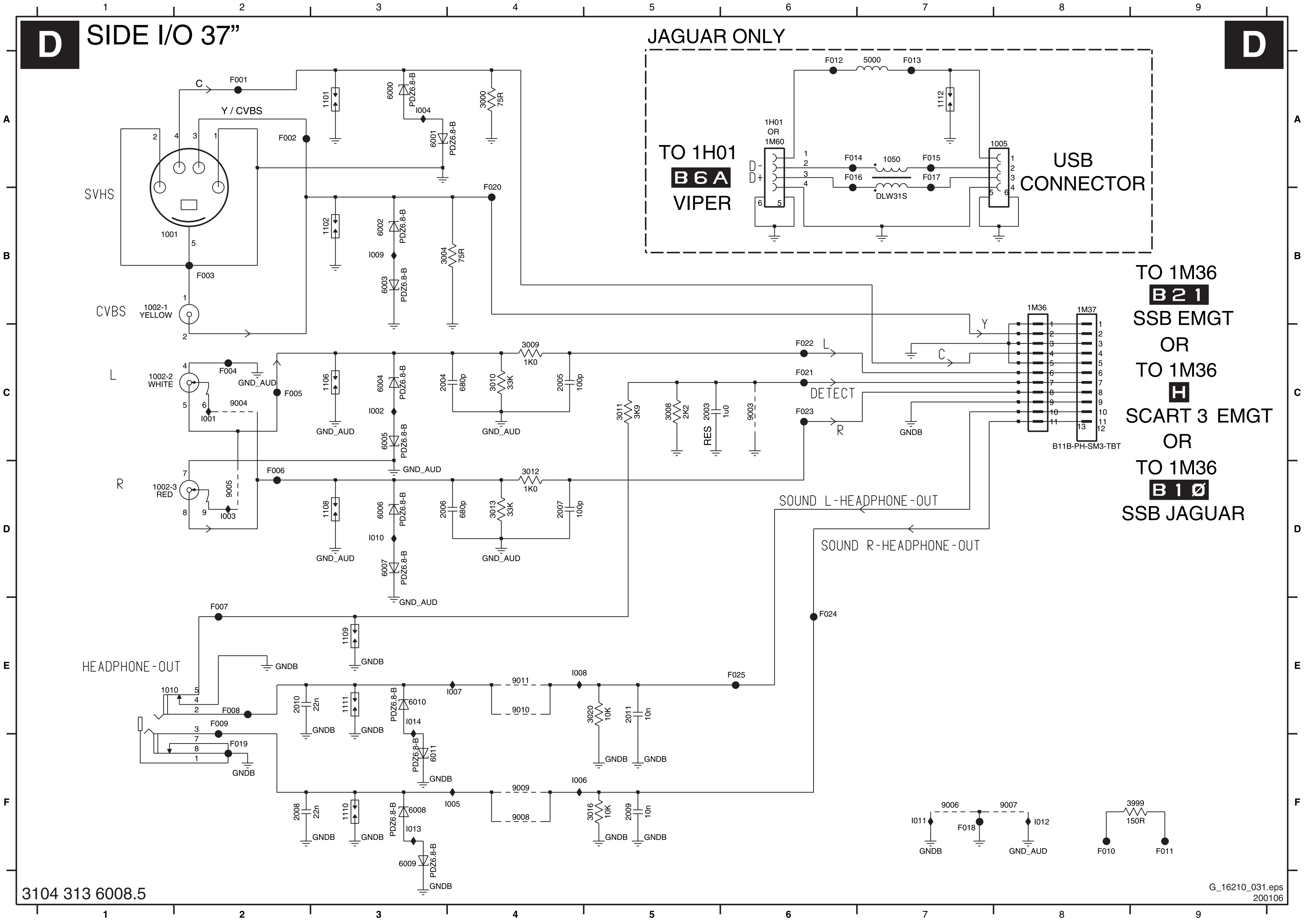

1
2
3
4
A
1304
12
1
9392
9390
9391
9393
1301
1302
1303
3139 123 5956.1
G_16210_029.eps
180106

Layout Side I/O Panel (26” & 32”) (Bottom Side)

2301 A3	2304 A3	2307 A1	2310 A2	3303 A4	3306 A2	3309 A3	4301 A3	6303 A4	6306 A1	7301 A2
2302 A3	2305 A3	2308 A1	3301 A3	3304 A2	3307 A2	3310 A3	6301 A4	6304 A4	6307 A2	
2303 A3	2306 A2	2309 A1	3302 A3	3305 A2	3308 A2	3311 A1	6302 A4	6305 A2	6308 A1	

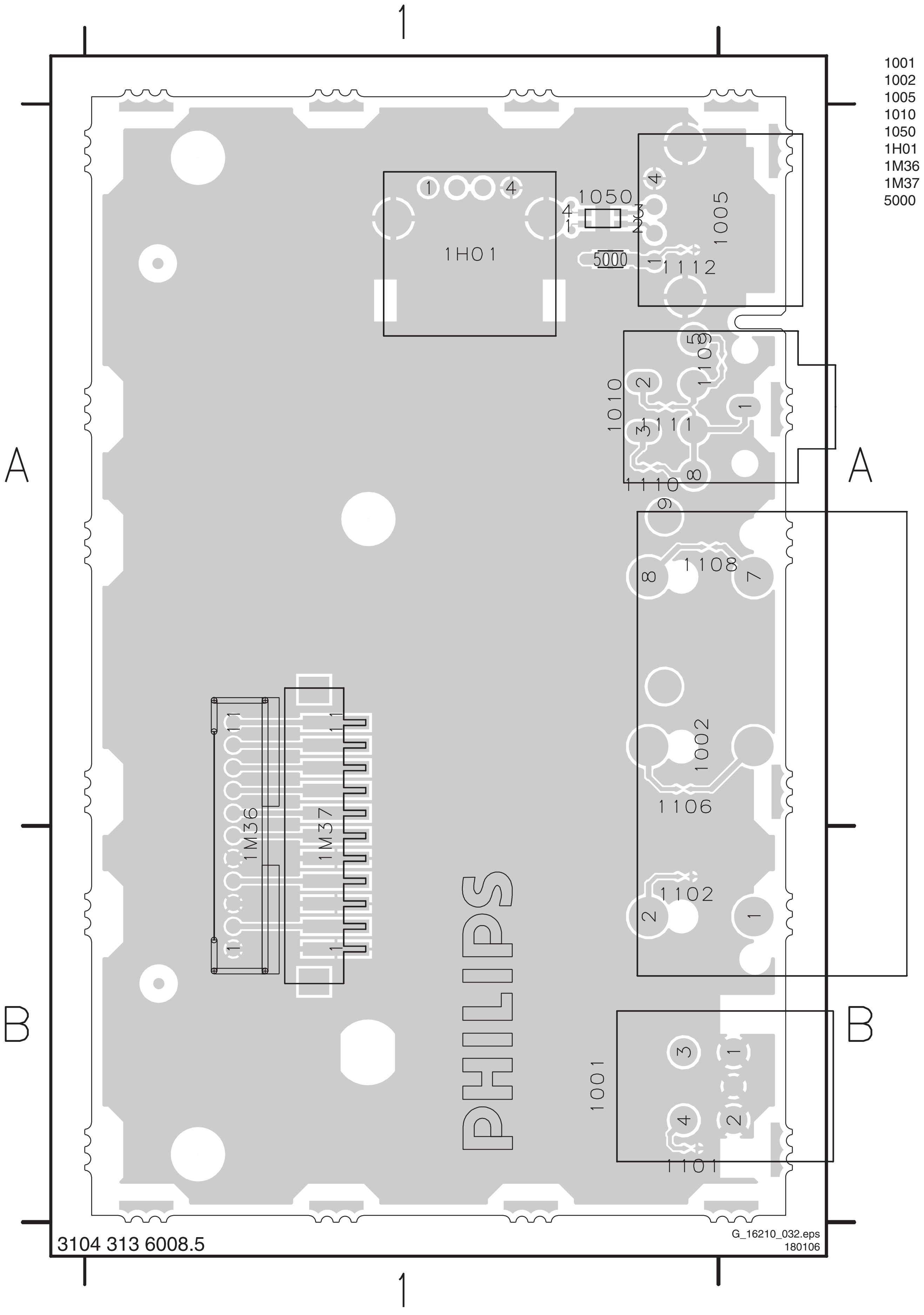

1
2
3
4
A
2309
6306
6308
2307
3308
6307
6305
2306
3306
2308
3311
3304
3307
3305
3310
7301
E
B
C
2310
4301
2305
3309
2302
3302
2301
3301
6301
6302
6304
6303
2303
2304
3303
K
A
3139 123 5956.1
G_16210_030.eps
180106

Side I/O Panel (37”)


D
SIDE I/O 37”
JAGUAR ONLY
SVHS
CVBS
1001
1002-1 YELLOW
L
1002-2 WHITE
R
1002-3 RED
HEADPHONE-OUT
1010
C
Y / CVBS
F001
F002
F003
F004
F005
F006
F007
F008
F009
F019
F020
F021
F022
F023
F024
F025
GND_AUD
GNDB
9004
9005
I001
I002
I003
I004
I005
I006
I007
I008
I009
I010
I013
I014
1101
1102
1106
1108
1109
1110
1111
6000 PDZ6.8-B
6001 PDZ6.8-B
6002 PDZ6.8-B
6003 PDZ6.8-B
6004 PDZ6.8-B
6005 PDZ6.8-B
6006 PDZ6.8-B
6007 PDZ6.8-B
6008 PDZ6.8-B
6009 PDZ6.8-B
6010 PDZ6.8-B
6011 PDZ6.8-B
3000 75R
3004 75R
3009 1K0
3012 1K0
3010 33K
3013 33K
2004 680p
2006 680p
2005 100p
2007 100p
3011 3K9
3008 2K2
2003 1u0 RES
9003
2010 22n
2008 22n
2011 10n
2009 10n
3020 10K
3016 10K
9008
9009
9010
9011
TO 1H01
B6A
VIPER
1H01 OR 1M60
D-
D+
F012
5000
F013
1112
F014
1050
F015
F016
DLW31S
F017
1005
USB CONNECTOR
TO 1M36
B21
SSB EMGT
OR
TO 1M36
H
SCART 3 EMGT
OR
TO 1M36
B1Ø
SSB JAGUAR
1M36
1M37
Y
C
L
DETECT
R
B11B-PH-SM3-TBT
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
9006
9007
I011
I012
F018
3999 150R
F010
F011
3104 313 6008.5
G_16210_031.eps
200106

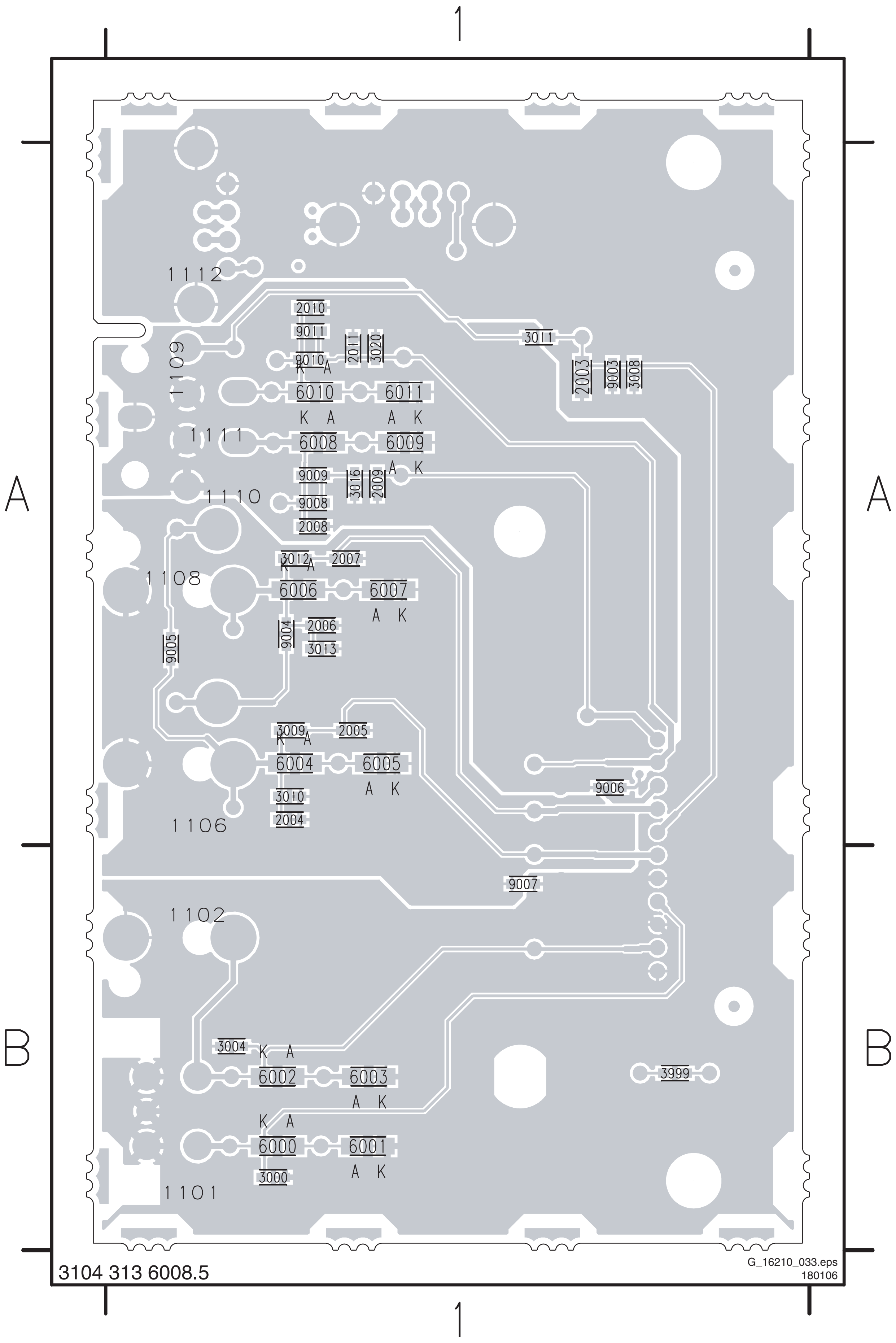
1001	B2
1002-1	B1
1002-2	C1
1002-3	D1
1005	A8
1010	E1
1050	A7
1101	A3
1102	B3
1106	C3
1108	D3
1109	E3
1110	F3
1111	E3
1112	A7
1H01	A6
1M36	B8
1M37	B8
2003	C5
2004	C3
2005	C4
2006	D3
2007	D4
2008	F2
2009	F5
2010	E2
2011	E5
3000	A4
3004	B3
3008	C5
3009	C4
3010	C4
3011	C5
3012	D4
3013	D4
3016	F5
3020	E5
3999	F9
5000	A7
6000	A3
6001	A3
6002	B3
6003	B3
6004	C3
6005	C3
6006	D3
6007	D3
6008	F3
6009	F3
6010	E3
6011	F3
9003	C6
9004	C2
9005	D2
9006	F7
9007	F8
9008	F4
9009	F4
9010	E4
9011	E4
F001	A2
F002	A2
F003	B2
F004	C2
F005	C2
F006	D2
F007	E2
F008	E2
F009	E2
F010	F8
F011	F9
F012	A6
F013	A7
F014	A6
F015	A7
F016	A6
F017	A7
F018	F7
F019	F2
F020	B4
F021	C6
F022	C6
F023	C6
F024	E6
F025	E6
I001	C2
I002	C3
I003	D2
I004	A3
I005	F4
I006	F4
I007	E4
I008	E4
I009	B3
I010	D3
I011	F7
I012	F8
I013	F3
I014	E3

Layout Side I/O Panel (37”) (Top Side)


1
A
B
1H01
1050
5000
1005
1112
1010
1111
1110
1109
1108
1002
1106
1102
1001
1101
1M36
1M37
PHILIPS
3104 313 6008.5
G_16210_032.eps
180106

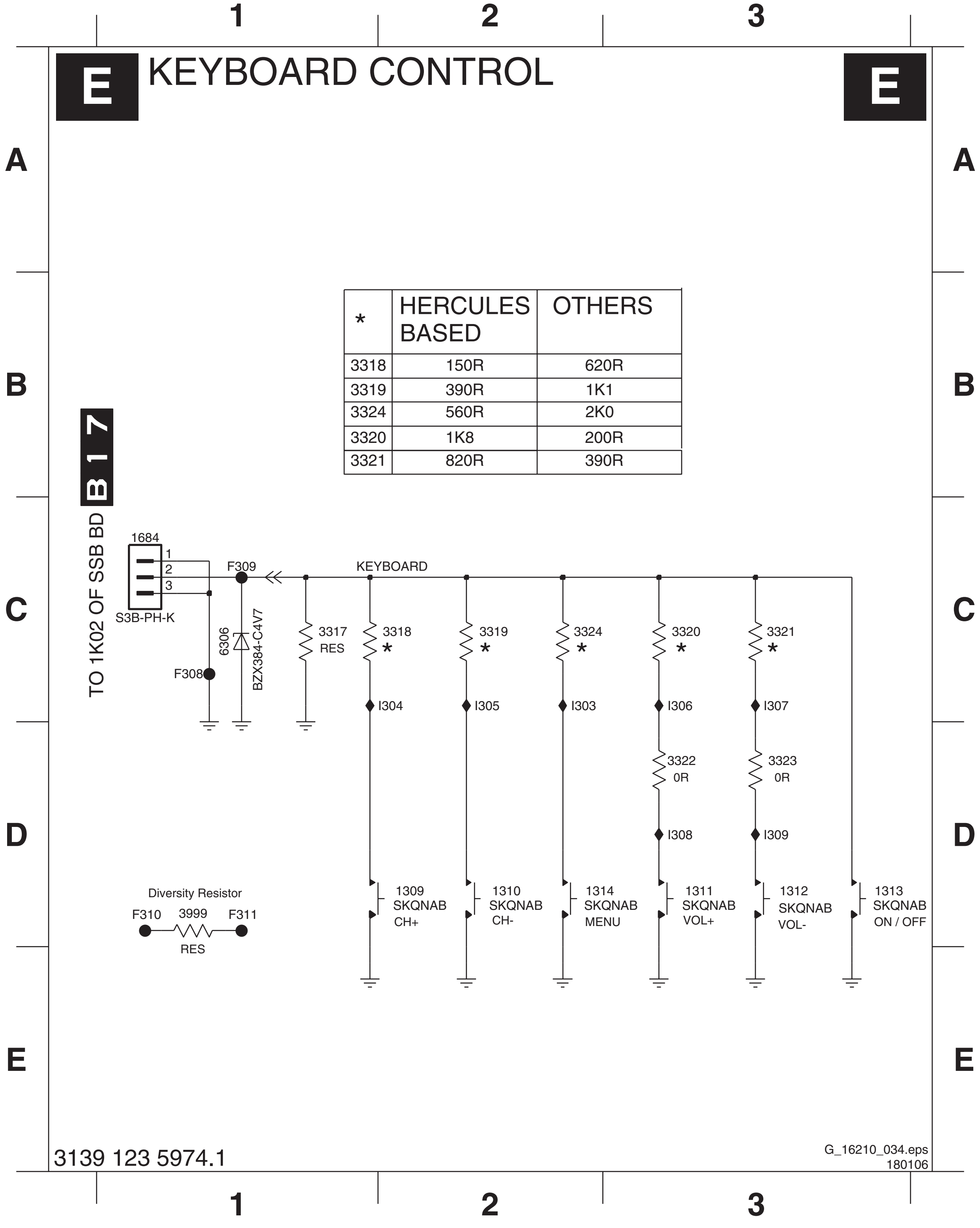
1001	B1
1002	A1
1005	A1
1010	A1
1050	A1
1H01	A1
1M36	B1
1M37	B1
5000	A1

Layout Side I/O Panel (37”) (Bottom Side)


1
A
B
1112
1109
1111
1110
1108
1106
1102
1101
6010
6011
6008
6009
6006
6007
6004
6005
6002
6003
6000
6001
3999
3104 313 6008.5
G_16210_033.eps
180106

2003	A1
2004	A1
2005	A1
2006	A1
2007	A1
2008	A1
2009	A1
2010	A1
2011	A1
3000	B1
3004	B1
3008	A1
3009	A1
3010	A1
3011	A1
3012	A1
3013	A1
3016	A1
3020	A1
3999	B1
6000	B1
6001	B1
6002	B1
6003	B1
6004	A1
6005	A1
6006	A1
6007	A1
6008	A1
6009	A1
6010	A1
6011	A1
9003	A1
9004	A1
9005	A1
9006	A1
9007	B1
9008	A1
9009	A1
9010	A1
9011	A1

Keyboard Control Board (26” & 32”)

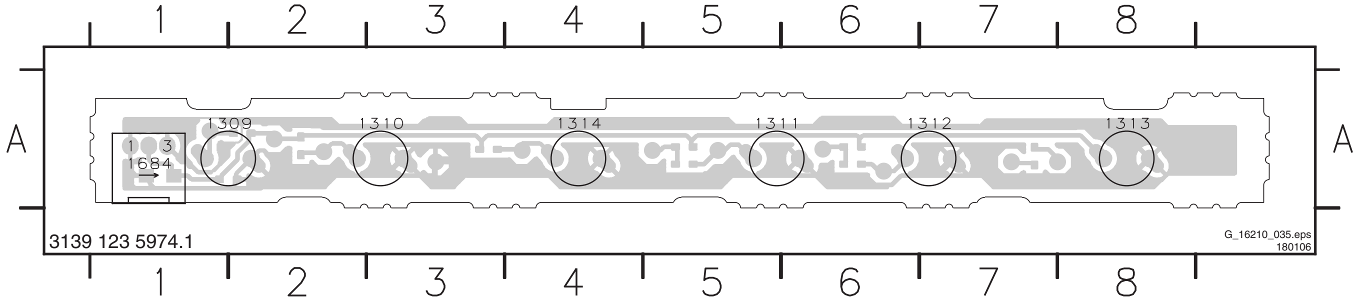

1
2
3
A
B
C
D
E
E
KEYBOARD CONTROL
E
B 1 7
TO 1K02 OF SSB BD
1684
1
2
3
S3B-PH-K
F309
F308
6306
BZX384-C4V7
KEYBOARD
3317
RES
3318 *
3319 *
3324 *
3320 *
3321 *
I304
I305
I303
I306
I307
3322
0R
3323
0R
I308
I309
1309
SKQNAB
CH+
1310
SKQNAB
CH-
1314
SKQNAB
MENU
1311
SKQNAB
VOL+
1312
SKQNAB
VOL-
1313
SKQNAB
ON / OFF
Diversity Resistor
F310
3999
F311
RES
3139 123 5974.1
G_16210_034.eps
180106

*	HERCULES BASED	OTHERS
3318	150R	620R
3319	390R	1K1
3324	560R	2K0
3320	1K8	200R
3321	820R	390R

1008	D1
1309	D2
1310	D2
1311	D3
1312	D3
1313	D3
1314	D2
1684	C1
3317	C1
3318	C2
3319	C2
3320	C3
3321	C3
3322	D3
3323	D3
3324	C2
3999	D1
6306	C1
F308	C1
F309	C1
F310	D1
F311	D1
I303	C2
I304	C2
I305	C2
I306	C3
I307	C3
I308	D3
I309	D3

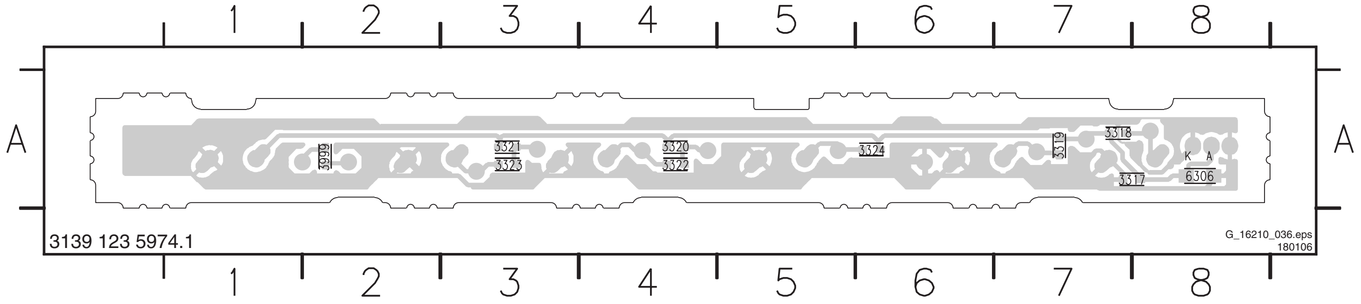
Layout Keyboard Control Board (26” & 32”) (Top Side)

1309 A1	1310 A3	1311 A5	1312 A7	1313 A8	1314 A4	1684 A1


1
2
3
4
5
6
7
8
A
A
1309
1310
1314
1311
1312
1313
1684
3139 123 5974.1
G_16210_035.eps
180106

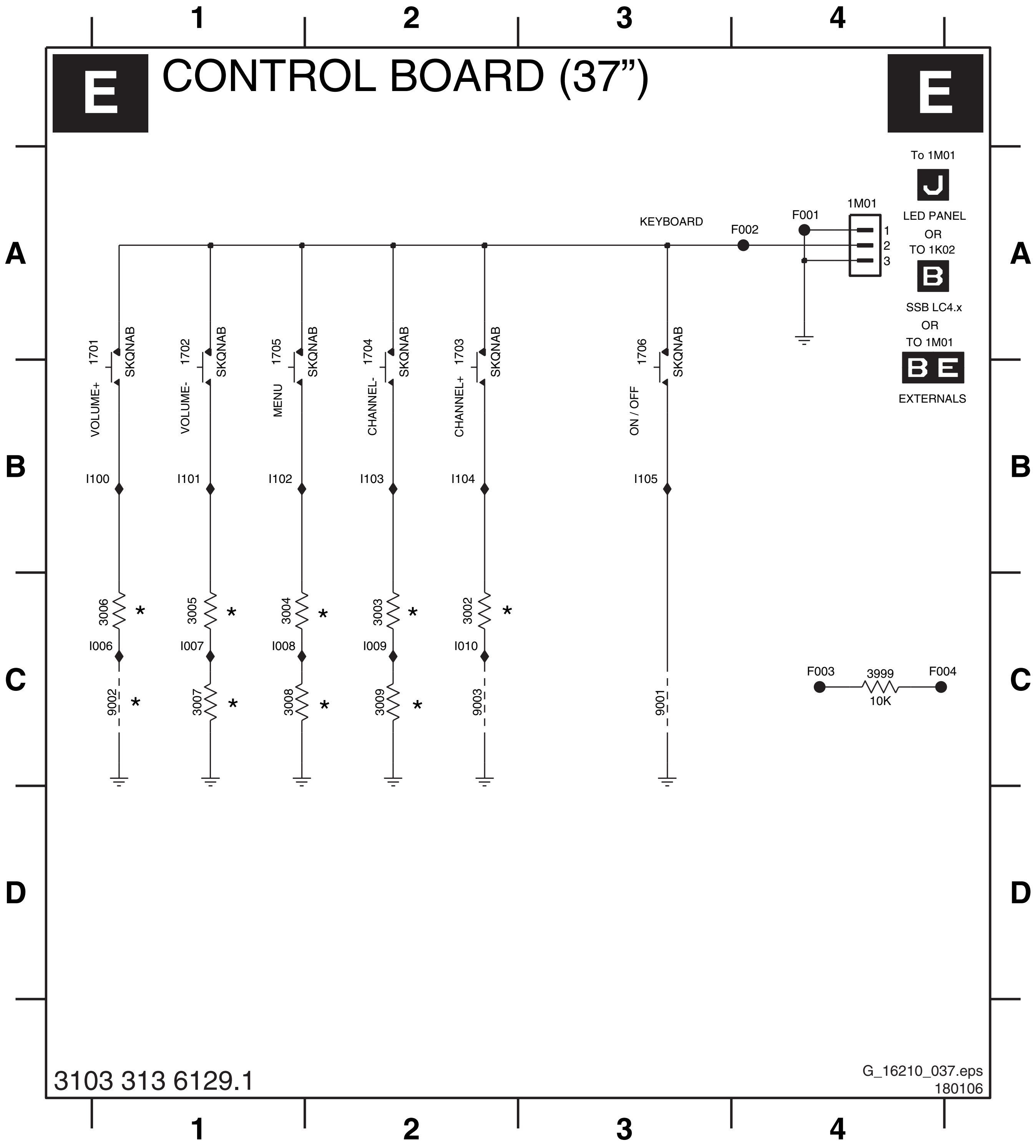
Layout Keyboard Control Board (26” & 32”) (Bottom Side)

3317 A7	3318 A7	3319 A7	3320 A4	3321 A3	3322 A4	3323 A3	3324 A6	3999 A2	6306 A8

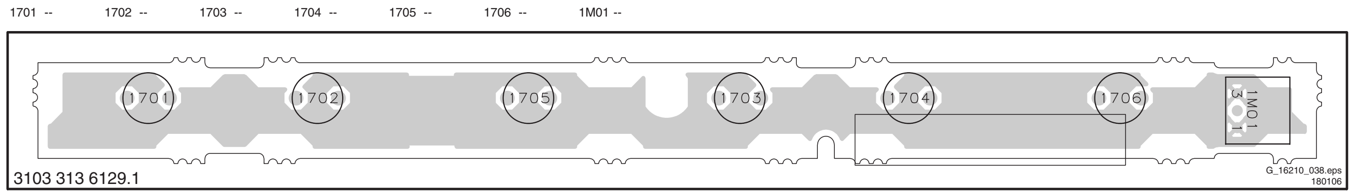

1
2
3
4
5
6
7
8
A
A
3999
3321
3323
3320
3322
3324
3319
3318
3317
6306
K
A
3139 123 5974.1
G_16210_036.eps
180106

Keyboard Control Board (37")

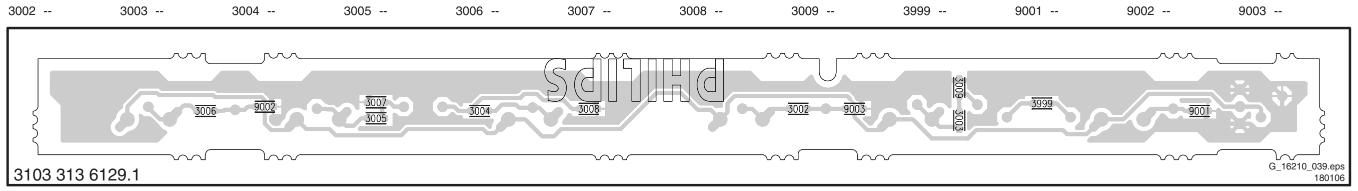
1701 A1	1704 A2	1M01 A4	3004 C1	3007 C1	3999 C4	9003 C2	F003 C4	I007 C1	I010 C2	I102 B1	I105 B3
1702 A1	1705 A1	3002 C2	3005 C1	3008 C1	9001 C3	F001 A4	F004 C4	I008 C1	I100 B1	I103 B2	
1703 A2	1706 A3	3003 C2	3006 C1	3009 C2	9002 C1	F002 A4	I006 C1	I009 C2	I101 B1	I104 B2	


1
2
3
4
A
B
C
D
E
CONTROL BOARD (37")
E
To 1M01
J
LED PANEL
OR
TO 1K02
B
SSB LC4.x
OR
TO 1M01
B E
EXTERNALS
1M01
1
2
3
F001
F002
KEYBOARD
1701 SKQNAB VOLUME+
1702 SKQNAB VOLUME-
1705 SKQNAB MENU
1704 SKQNAB CHANNEL-
1703 SKQNAB CHANNEL+
1706 SKQNAB ON / OFF
I100
I101
I102
I103
I104
I105
3006 *
3005 *
3004 *
3003 *
3002 *
I006
I007
I008
I009
I010
9002 *
3007 *
3008 *
3009 *
9003
9001
F003
3999
10K
F004
3103 313 6129.1
G_16210_037.eps
180106

Layout Keyboard Control Board (37") (Top Side)

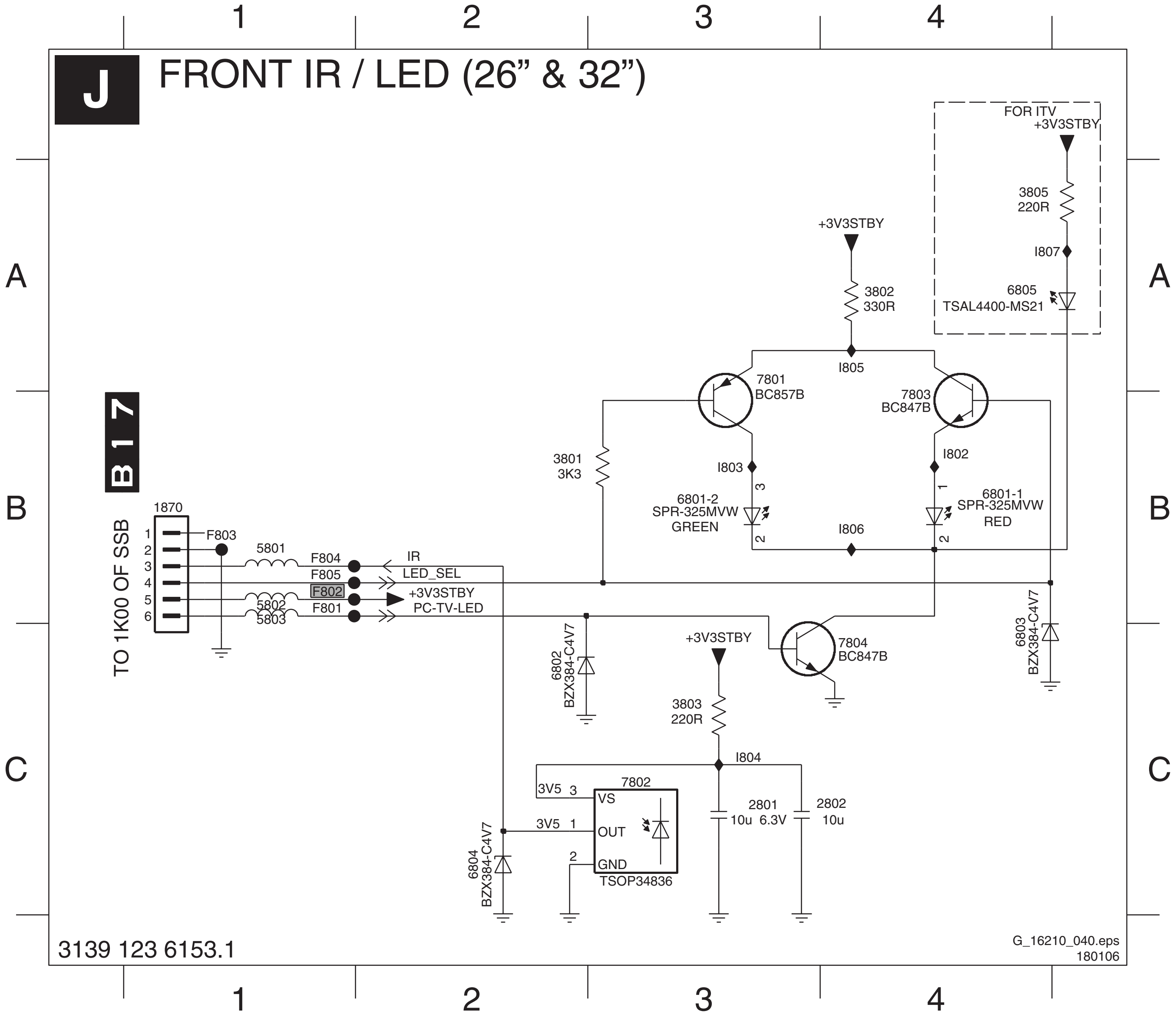

1701 --
1702 --
1703 --
1704 --
1705 --
1706 --
1M01 --
1701
1702
1705
1703
1704
1706
1M01
3103 313 6129.1
G_16210_038.eps
180106

Layout Keyboard Control Board (37") (Bottom Side)


3002 --
3003 --
3004 --
3005 --
3006 --
3007 --
3008 --
3009 --
3999 --
9001 --
9002 --
9003 --
PHILIPS
3103 313 6129.1
G_16210_039.eps
180106

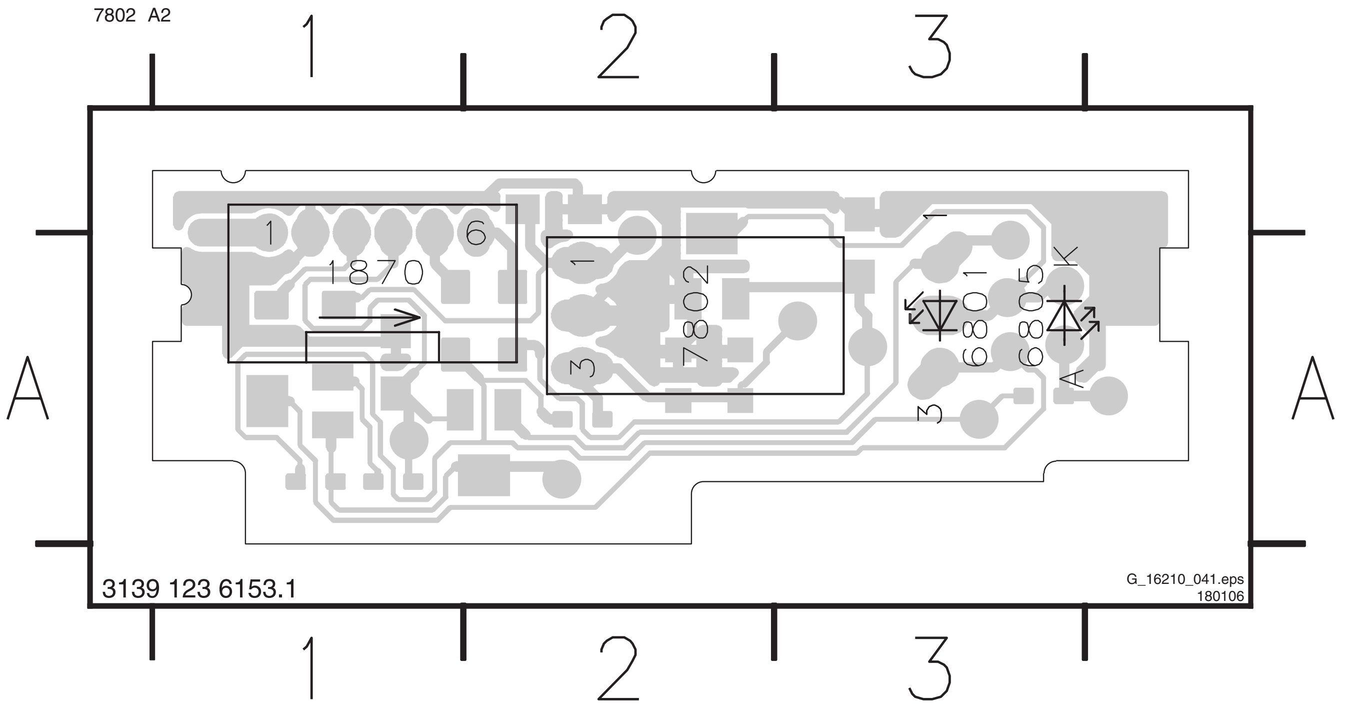
Front IR / LED Panel (26” & 32”) (ME5P)

1870	B1
2801	C3
2802	C4
3801	B2
3802	A4
3803	C3
3805	A4
5801	B1
5802	B1
5803	C1
6801-1	B4
6801-2	B3
6802	C2
6803	C4
6804	C2
6805	A4
7801	A3
7802	C3
7803	B4
7804	C4
F801	B1
F802	B1
F803	B1
F804	B1
F805	B1
I802	B4
I803	B3
I804	C3
I805	A4
I806	B4
I807	A4


1
2
3
4
A
B
C
J
FRONT IR / LED (26” & 32”)
FOR ITV
+3V3STBY
3805
220R
I807
6805
TSAL4400-MS21
+3V3STBY
3802
330R
I805
7801
BC857B
7803
BC847B
3801
3K3
I803
I802
6801-2
SPR-325MVW
GREEN
6801-1
SPR-325MVW
RED
I806
B17
TO 1K00 OF SSB
1870
F803
5801
F804
F805
F802
F801
5802
5803
IR
LED_SEL
+3V3STBY
PC-TV-LED
6802
BZX384-C4V7
6803
BZX384-C4V7
+3V3STBY
7804
BC847B
3803
220R
I804
7802
3V5
VS
OUT
GND
TSOP34836
2801
10u 6.3V
2802
10u
6804
BZX384-C4V7
3139 123 6153.1
G_16210_040.eps
180106

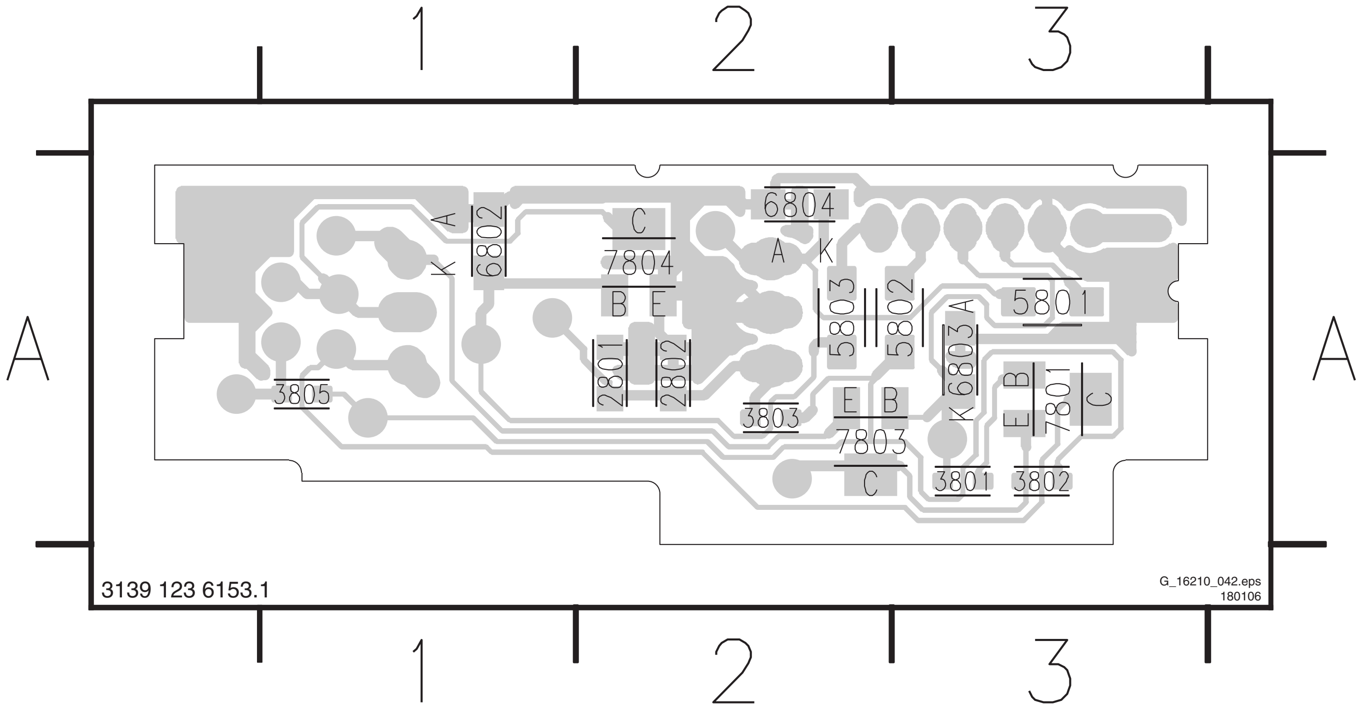
Layout Front IR / LED Panel (26” & 32”) (ME5P) (Top Side)

1870	A1
6801	A3
6805	A3
7802	A2


1
2
3
A
1870
7802
6801
6805
3139 123 6153.1
G_16210_041.eps
180106

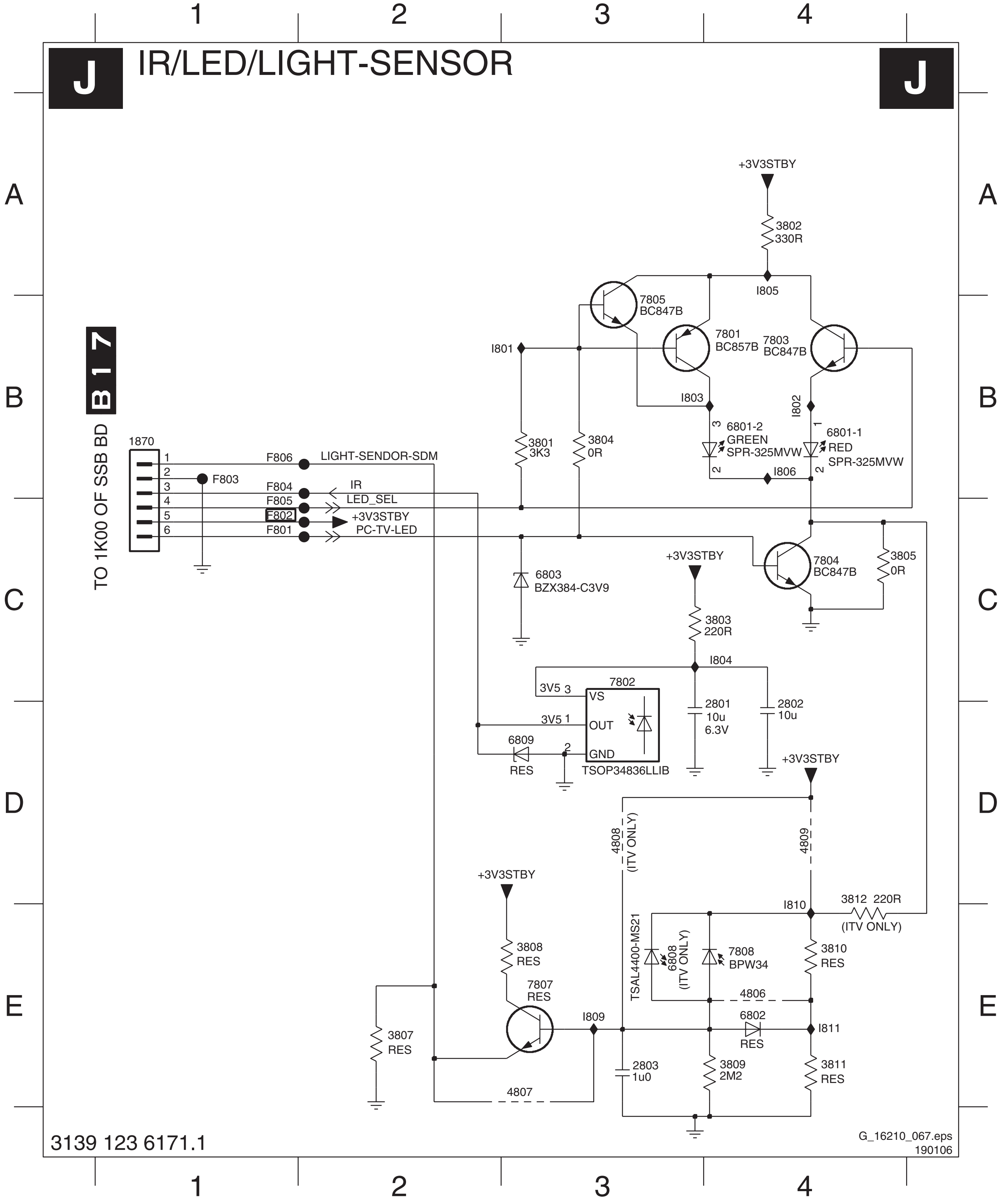
Layout Front IR / LED Panel (26” & 32”) (ME5P) (Bottom Side)

2801	A2
2802	A2
3801	A3
3802	A3
3803	A2
3805	A1
5801	A3
5802	A3
5803	A2
6802	A1
6803	A3
6804	A2
7801	A3
7803	A2
7804	A2


1
2
3
A
6802
7804
6804
5803
5802
5801
2801
2802
3805
3803
7803
6803
7801
3801
3802
3139 123 6153.1
G_16210_042.eps
180106

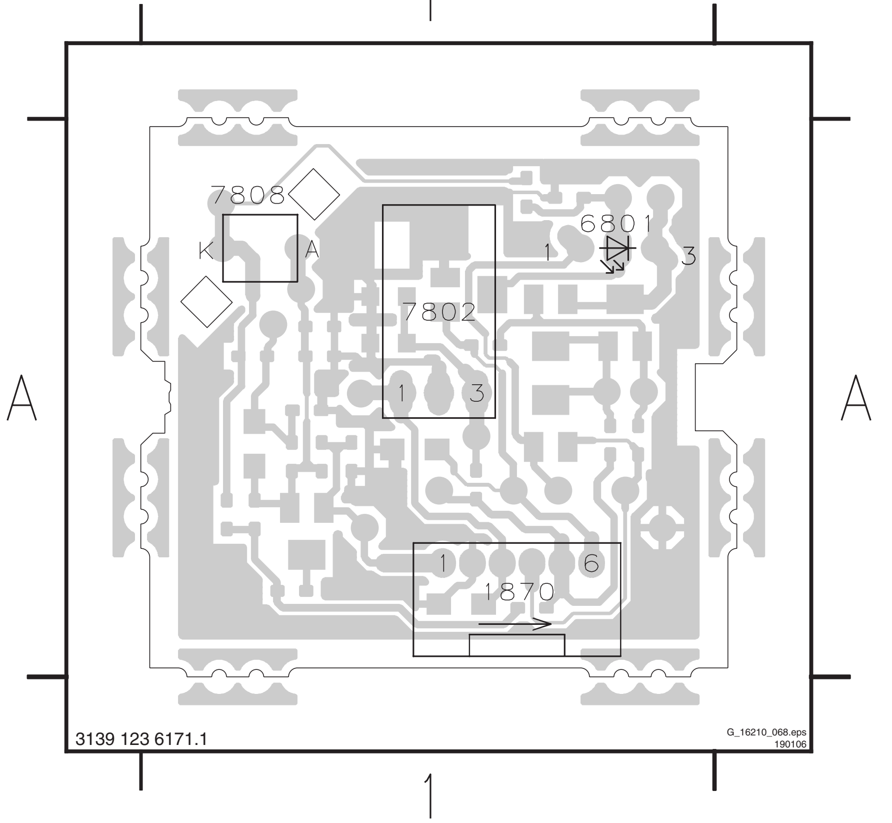
IR-LED and Light Sensor Panel (ME5FL)

1870 B1
2801 D4
2802 D4
2803 E3
3801 B3
3802 A4
3803 C4
3804 B3
3805 C4
3807 E2
3808 E3
3809 E4
3810 E4
3811 E4
3812 D4
4806 E4
4807 E3
4808 D3
4809 D4
6801-1 B4
6801-2 B4
6802 E4
6803 C3
6809 D3
7801 B4
7802 C3
7803 B4
7804 C4
7805 B3
7807 E3
7808 E4
F801 C1
F802 C1
F803 B1
F804 B1
F805 C1
F806 B1
I801 B3
I802 B4
I803 B3
I804 C4
I805 A4
I806 B4
I809 E3
I810 E4
I811 E4


J
IR/LED/LIGHT-SENSOR
J
1
2
3
4
A
B
C
D
E
B 1 7
TO 1K00 OF SSB BD
1870
1
2
3
4
5
6
F806
LIGHT-SENDOR-SDM
F803
F804
IR
F805
LED_SEL
F802
+3V3STBY
F801
PC-TV-LED
+3V3STBY
3802
330R
I805
7805
BC847B
7801
BC857B
7803
BC847B
I801
I803
I802
3
6801-2
GREEN
SPR-325MVW
2
1
6801-1
RED
SPR-325MVW
2
I806
3801
3K3
3804
0R
6803
BZX384-C3V9
+3V3STBY
7804
BC847B
3805
0R
3803
220R
I804
7802
3V5 3
VS
3V5 1
OUT
2
GND
TSOP34836LLIB
6809
RES
2801
10u
6.3V
2802
10u
+3V3STBY
4808
(ITV ONLY)
4809
+3V3STBY
I810
3812 220R
(ITV ONLY)
TSAL4400-MS21
6808
(ITV ONLY)
7808
BPW34
3810
RES
4806
6802
RES
I811
3808
RES
7807
RES
I809
3807
RES
2803
1u0
3809
2M2
3811
RES
4807
3139 123 6171.1
G_16210_067.eps
190106

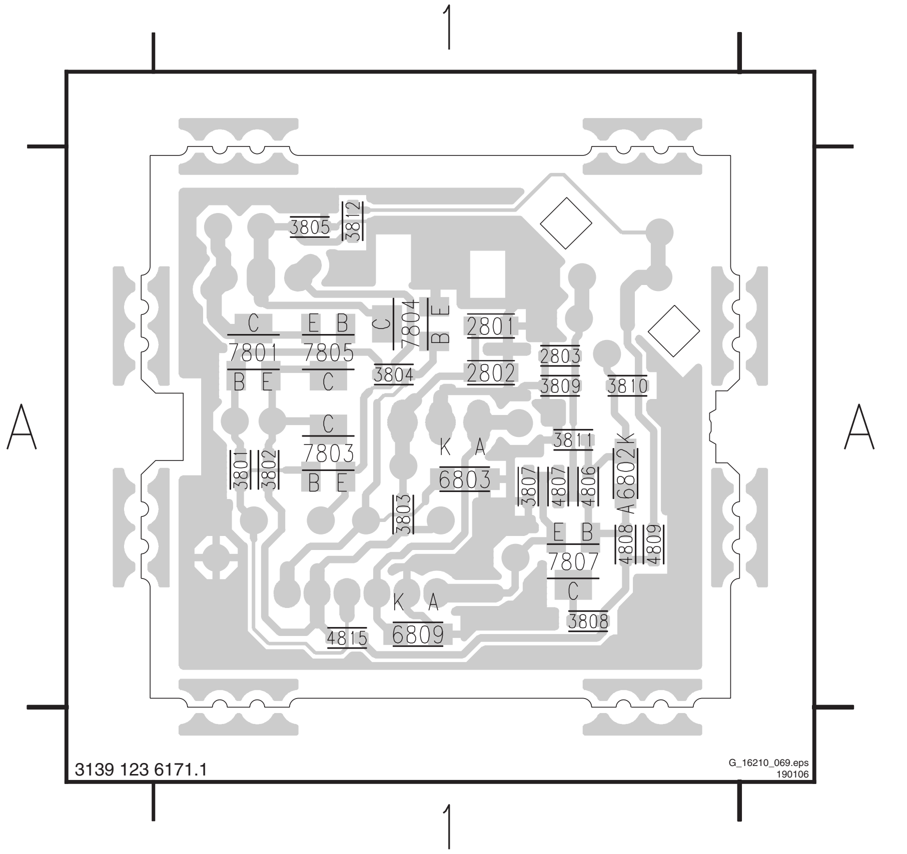
Layout IR-LED and Light Sensor Panel (ME5FL) (Top Side)

1870 A1
6801 A1
7802 A1
7808 A1

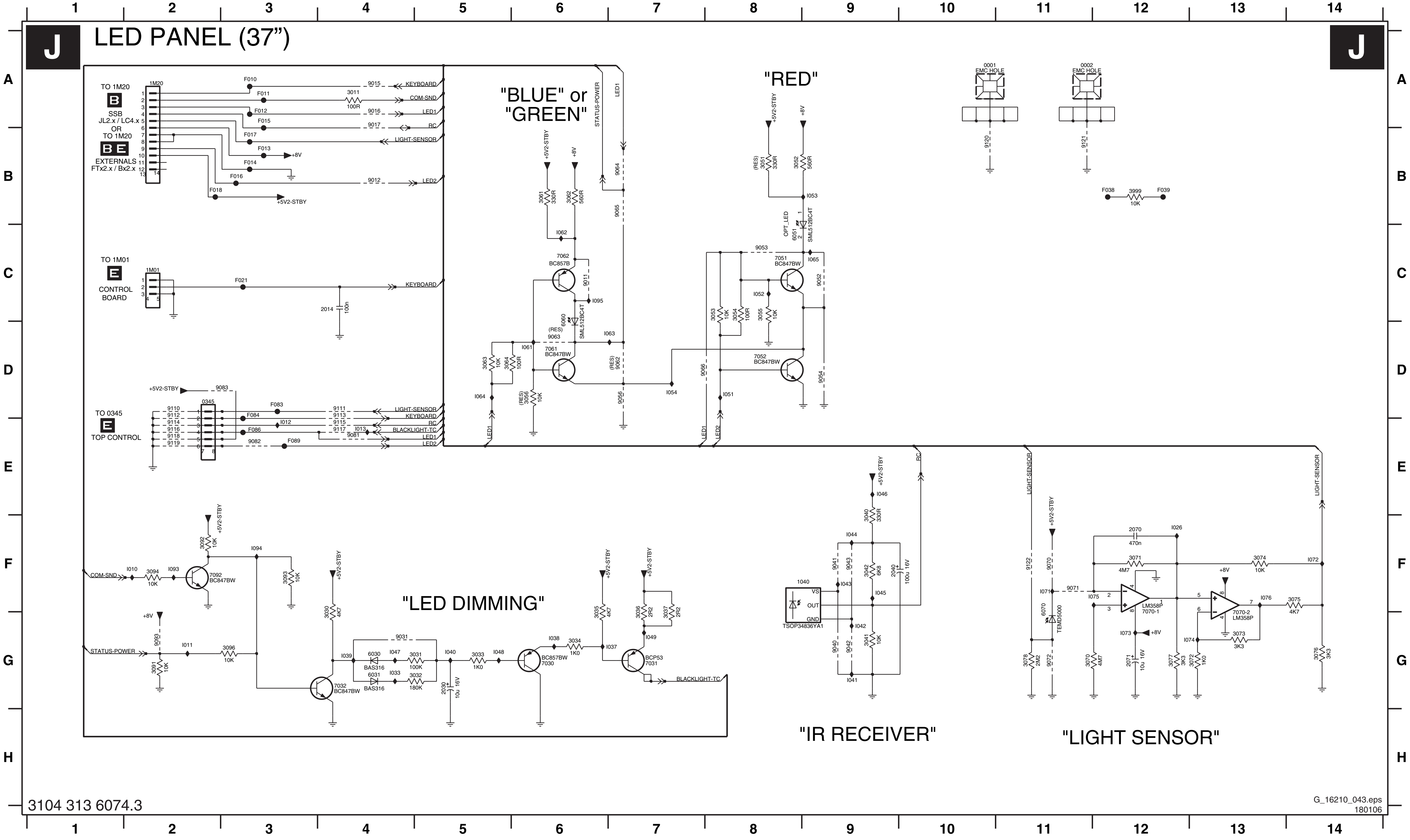

7808
K
A
6801
1
3
7802
1
3
1
6
1870
A
A
3139 123 6171.1
G_16210_068.eps
190106

Layout IR-LED and Light Sensor Panel (ME5FL) (Bottom Side)

2801 A1
2802 A1
2803 A1
3801 A1
3802 A1
3803 A1
3804 A1
3805 A1
3807 A1
3808 A1
3809 A1
3810 A1
3811 A1
3812 A1
4806 A1
4807 A1
4808 A1
4809 A1
4815 A1
6802 A1
6803 A1
6809 A1
7801 A1
7803 A1
7804 A1
7805 A1
7807 A1

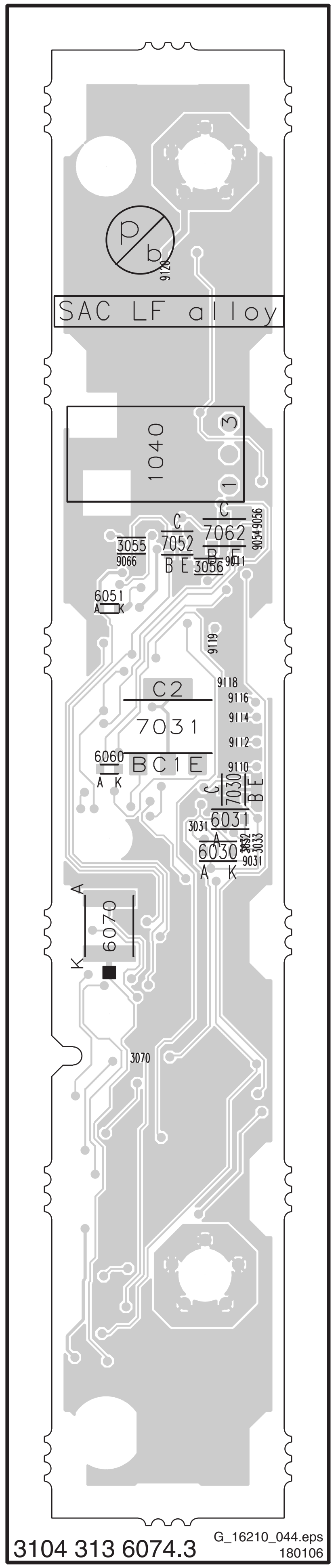

3805
3812
C
7801
B E
E B
7805
C
C
7804
B E
2801
2802
2803
3809
3810
3804
C
7803
B E
K A
6803
3811
3801
3802
3803
3807
4806
A6802K
4808
4809
E B
7807
C
3808
4815
K A
6809
A
A
3139 123 6171.1
G_16210_069.eps
190106

Front IR / LED Panel (37”)


J
LED PANEL (37”)
"BLUE" or "GREEN"
"RED"
"LED DIMMING"
"IR RECEIVER"
"LIGHT SENSOR"
TO 1M20
B
SSB
JL2.x / LC4.x
OR
TO 1M20
B E
EXTERNALS
FTx2.x / Bx2.x
TO 1M01
E
CONTROL BOARD
TO 0345
E
TOP CONTROL
KEYBOARD
COM-SND
LED1
RC
LIGHT-SENSOR
LED2
BLACKLIGHT-TC
STATUS-POWER
+5V2-STBY
+8V
EMC HOLE
OPT_LED
SML512BC4T
BC857B
BC847BW
BCP53
BAS316
TSOP34836YA1
TEMD5000
LM358P
3104 313 6074.3
G_16210_043.eps
180106

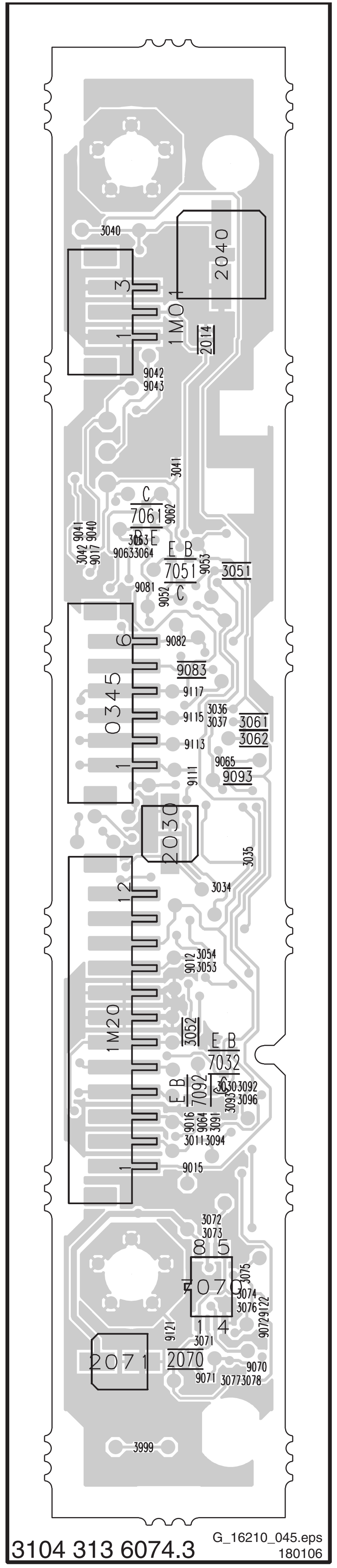
0001 A10
0002 A11
0345 D2
1040 F9
1M01 C2
1M20 A2
2014 C4
2030 G5
2040 F9
2070 F12
2071 G12
3011 A4
3030 G4
3031 G5
3032 G5
3033 G5
3034 G6
3035 G6
3036 G7
3037 G7
3040 F9
3041 G9
3042 F9
3051 B8
3052 B8
3053 C8
3054 C8
3055 C8
3056 D6
3061 B6
3062 B6
3063 D5
3064 D5
3070 G11
3071 F12
3072 G13
3073 G13
3074 F13
3075 F14
3076 G14
3077 G12
3078 G11
3091 G2
3092 F2
3093 F3
3094 F2
3096 G3
3999 B12
6030 G4
6031 G4
6051 C8
6060 C6
6070 G11
7030 G6
7031 G7
7032 G4
7051 C8
7052 D8
7061 D6
7062 C6
7070-1 F12
7070-2 G13
7092 F2
9011 C6
9012 B4
9015 A4
9016 A4
9017 A4
9031 G4
9040 G9
9041 F9
9042 G9
9043 F9
9052 C9
9053 C8
9054 D9
9056 D7
9062 D7
9063 D6
9064 B7
9065 B7
9066 D7
9070 F11
9071 F11
9072 G11
9081 E4
9082 E3
9083 D3
9093 G2
9110 D2
9111 D4
9112 D2
9113 D4
9114 E2
9115 E4
9116 E2
9117 E4
9118 E2
9119 E2
9120 B10
9121 B11
9122 F11
F010 A3
F011 A3
F012 A3
F013 B3
F014 B3
F015 A3
F016 B3
F017 B3
F018 B2
F021 C3
F038 B12
F039 B12
F083 D3
F084 D3
F086 E3
F089 E3
I010 F2
I011 G2
I012 E3
I013 E4
I026 F12
I033 G4
I037 G7
I038 G6
I039 G4
I040 G5
I041 G9
I042 G9
I043 F9
I044 F9
I045 F9
I046 E9
I047 G4
I048 G5
I049 G7
I051 D8
I052 C8
I053 B9
I054 D7
I061 D6
I062 C6
I063 D7
I064 D5
I065 C9
I071 F11
I072 F14
I073 G12
I074 G12
I075 F12
I076 F13
I093 F2
I094 F3
I095 C6

Layout Front IR / LED Panel (37”) (Top Side)


SAC LF alloy
1040
7062
7052
3055
3056
9066
6051
C2
7031
BC1E
6060
7030
6031
6030
3031
6070
3070
3104 313 6074.3
G_16210_044.eps
180106

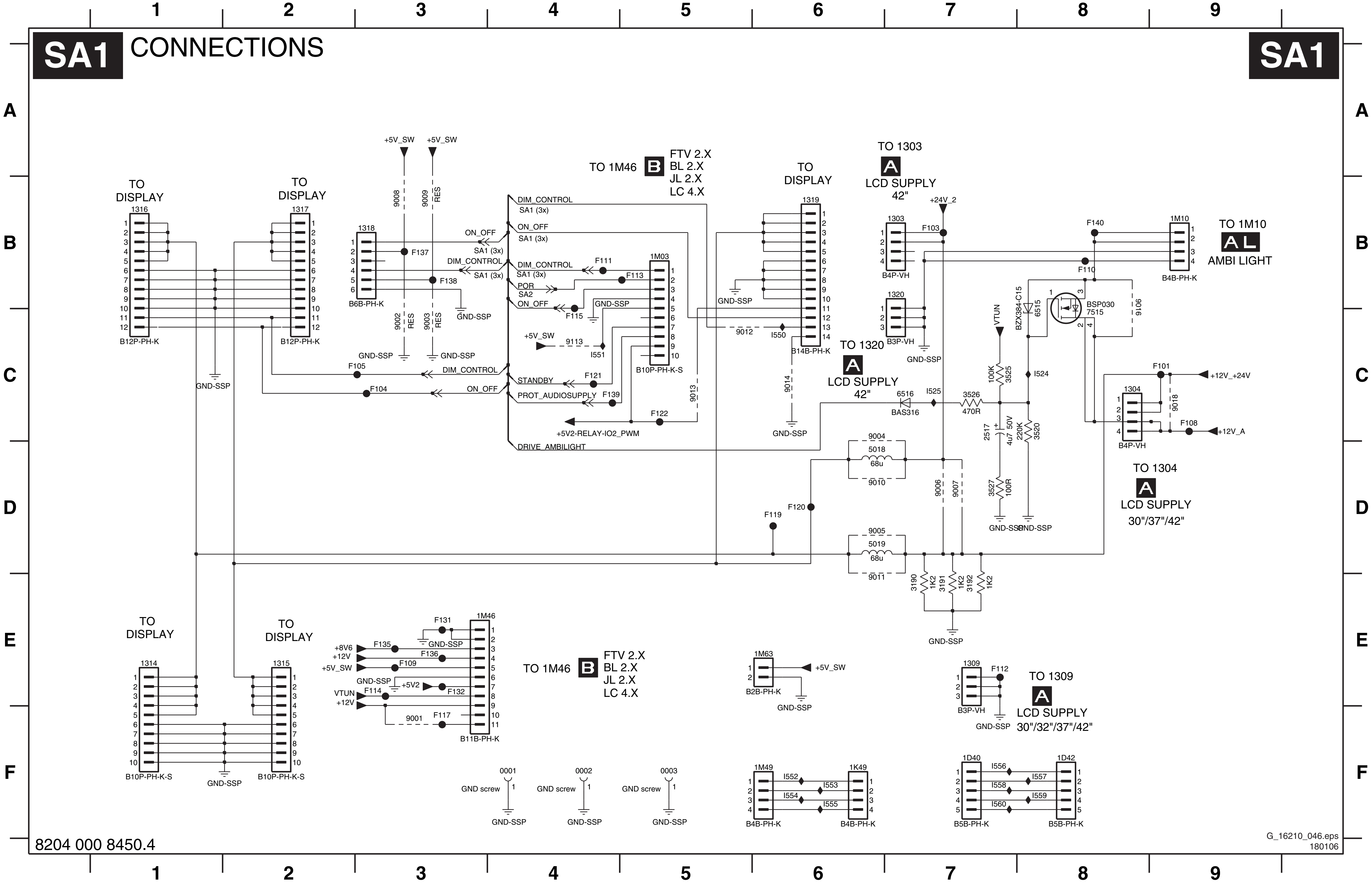
1040 --
3031 --
3032 --
3033 --
3055 --
3056 --
3070 --
6030 --
6031 --
6051 --
6060 --
6070 --
7030 --
7031 --
7052 --
7062 --
9011 --
9031 --
9054 --
9056 --
9066 --
9110 --
9112 --
9114 --
9116 --
9118 --
9119 --
9120 --

Layout Front IR / LED Panel (37”) (Bottom Side)


3040
2040
1M01
2014
9042
9043
3041
7061
7051
3051
0345
9083
3061
3062
9093
2030
3034
3035
1M20
3052
7032
7092
9015
3072
3073
7070
2071
2070
3999
3104 313 6074.3
G_16210_045.eps
180106

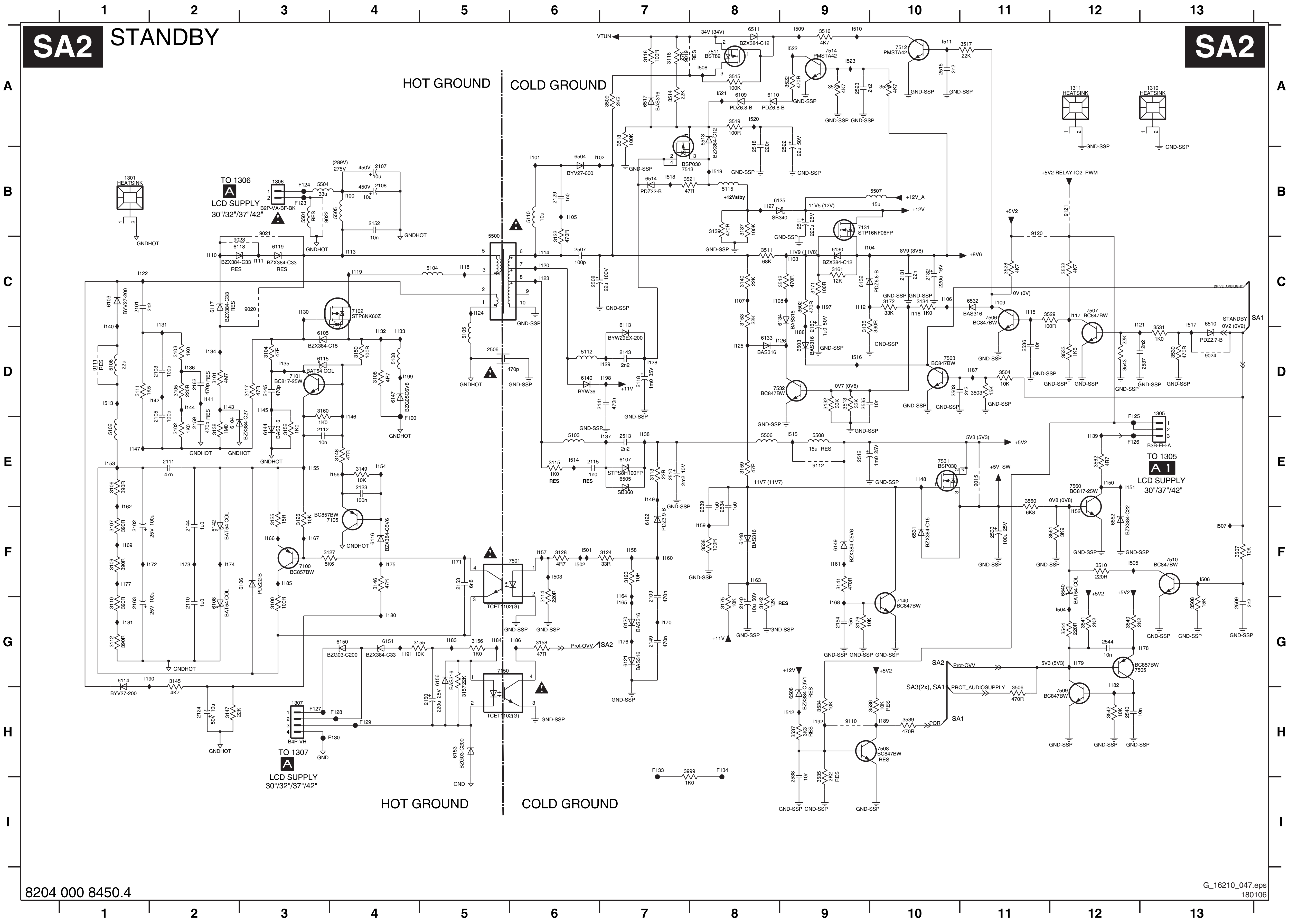
0345 --
1M01 --
1M20 --
2014 --
2030 --
2040 --
2070 --
2071 --
3011 --
3030 --
3034 --
3035 --
3036 --
3037 --
3040 --
3041 --
3042 --
3051 --
3052 --
3053 --
3054 --
3061 --
3062 --
3063 --
3064 --
3071 --
3072 --
3073 --
3074 --
3075 --
3076 --
3077 --
3078 --
3091 --
3092 --
3093 --
3094 --
3096 --
3999 --
7032 --
7051 --
7061 --
7070 --
7092 --
9012 --
9015 --
9016 --
9017 --
9040 --
9041 --
9042 --
9043 --
9052 --
9053 --
9062 --
9063 --
9064 --
9065 --
9070 --
9071 --
9072 --
9081 --
9082 --
9083 --
9093 --
9111 --
9113 --
9115 --
9117 --
9121 --
9122 --

Standby & Audio Panel (37”) : Connections


SA1
CONNECTIONS
SA1
TO DISPLAY
1316
B12P-PH-K
TO DISPLAY
1317
B12P-PH-K
1318
B6B-PH-K
+5V_SW
9008
9009 RES
9002 RES
9003 RES
F137
F138
GND-SSP
ON_OFF
SA1 (3x)
DIM_CONTROL
DIM_CONTROL
ON_OFF
POR
SA2
STANDBY
PROT_AUDIOSUPPLY
DRIVE_AMBILIGHT
+5V2-RELAY-IO2_PWM
F111
F113
F115
F121
F139
F122
F105
F104
9113
I551
1M03
B10P-PH-K-S
9013
TO 1M46
B
FTV 2.X
BL 2.X
JL 2.X
LC 4.X
TO DISPLAY
1319
B14B-PH-K
9012
I550
9014
TO 1303
A
LCD SUPPLY
42"
+24V_2
1303
B4P-VH
F103
1320
B3P-VH
TO 1320
A
LCD SUPPLY
42"
VTUN
100K 3525
BZX384-C15 6515
BSP030 7515
9106
I524
6516 BAS316
I525
3526 470R
2517 4u7 50V
220K 3520
3527 100R
F140
F110
1M10
B4B-PH-K
TO 1M10
AL
AMBI LIGHT
F101
+12V_+24V
1304
B4P-VH
9018
F108
+12V_A
TO 1304
A
LCD SUPPLY
30"/37"/42"
9004
5018 68u
9010
9005
5019 68u
9011
9006
9007
F119
F120
3190 1K2
3191 1K2
3192 1K2
TO DISPLAY
1314
B10P-PH-K-S
TO DISPLAY
1315
B10P-PH-K-S
F131
1M46
B11B-PH-K
+8V6
+12V
+5V_SW
F135
F136
F109
+5V2
F132
VTUN
F114
9001
F117
TO 1M46
B
FTV 2.X
BL 2.X
JL 2.X
LC 4.X
1M63
B2B-PH-K
1309
B3P-VH
F112
TO 1309
A
LCD SUPPLY
30"/32"/37"/42"
0001
0002
0003
GND screw
1M49
B4B-PH-K
1K49
B4B-PH-K
I552
I553
I554
I555
1D40
B5B-PH-K
1D42
B5B-PH-K
I556
I557
I558
I559
I560
8204 000 8450.4
G_16210_046.eps
180106
1 2 3 4 5 6 7 8 9
A B C D E F

0001	F4
0002	F4
0003	F5
1303	B7
1304	C8
1309	E7
1314	E1
1315	E2
1316	B1
1317	B2
1318	B3
1319	B6
1320	B7
1D40	F7
1D42	F8
1K49	F6
1M03	B5
1M10	B9
1M46	E4
1M49	F6
1M63	E6
2517	C7
3190	E7
3191	E7
3192	E7
3520	C8
3525	C7
3526	C7
3527	D7
5018	D6
5019	D6
6515	B8
6516	C7
7515	C8
9001	F3
9002	C3
9003	C3
9004	C6
9005	D6
9006	D7
9007	D7
9008	B3
9009	B3
9010	D6
9011	E6
9012	C5
9013	C5
9014	C6
9016	B8
9018	C9
9113	C4
F101	C9
F103	B7
F104	C3
F105	C3
F108	C9
F109	E3
F110	B8
F111	B4
F112	E7
F113	B5
F114	E3
F115	C4
F117	F3
F119	D6
F120	D6
F121	C4
F122	C5
F131	E3
F132	E3
F135	E3
F136	E3
F137	B3
F138	B3
F139	C4
F140	B8
I524	C8
I525	C7
I550	C6
I551	C4
I552	F6
I553	F6
I554	F6
I555	F6
I556	F7
I557	F8
I558	F7
I559	F8
I560	F7

Standby & Audio Panel (37"): Standby



8204 000 8450.4

G_16210_047.eps
180106

1301	B1
1305	D13
1306	B3
1307	H3
1310	A13
1311	A12
2101	C1
2102	F1
2103	D2
2105	D2
2107	B4
2108	B4
2109	F7
2110	G2
2111	E2
2112	E3
2115	E6
2118	D7
2123	E4
2124	H2
2129	B6
2131	C10
2132	C10
2140	G8
2141	D7
2143	D7
2144	F2
2145	D3
2149	G7
2150	H5
2152	B4
2153	F5
2154	G9
2159	E2
2160	C9
2162	D2
2163	G1
2503	D10
2506	D5
2507	C6
2508	C6
2509	G13
2510	E7
2511	B9
2512	E9
2513	E7
2515	A10
2518	A8
2522	A9
2523	A9
2533	F11
2534	E8
2535	D9
2536	D11
2537	D13
2538	H9
2539	E8
2540	H12
2544	G12
3100	G3
3101	D2
3102	E2
3103	D2
3104	D3
3105	D2
3106	E1
3107	F1
3108	D4
3109	F1
3110	G1
3111	D1
3112	G1
3113	E7
3114	F6
3115	E6
3116	A7
3117	D3
3118	A7
3122	B6
3123	F7
3124	F7
3125	F3
3126	F3
3127	F3
3128	F6
3132	D9
3134	C10
3135	C9
3137	B8
3138	E2
3139	B8
3140	C8
3141	F9
3142	G8
3145	G2
3146	F4
3147	H2
3148	E4
3149	E4
3150	D4
3152	E3
3153	C8
3155	G4
3156	G5
3157	H5
3158	G6
3159	E8
3160	D3
3161	C9
3171	C9
3172	C10
3175	G8
3176	G9
3502	C9
3503	D11
3504	D11
3506	H11
3507	F13
3508	G13
3509	A7
3510	F12
3511	C8
3512	C9
3513	D9
3514	A7
3515	A8
3516	A9
3517	A11
3518	A7
3519	A8
3521	B7
3522	A9
3523	A9
3524	A10
3528	C11
3529	C11
3530	D13
3531	D13
3532	C12
3533	D12
3534	H9
3535	H9
3536	H10
3537	H9
3538	F8
3539	H10
3540	G12
3541	G12
3542	H12
3543	D12
3544	G12
3560	E11
3561	F12
3562	E12
3999	H7
5102	E1
5103	E6
5104	C5
5105	D5
5106	D1
5108	D4
5110	B6
5112	D6
5115	B8
5500	C5
5501	B3
5504	B3
5505	B4
5506	E8
5507	B10
5508	E9
6103	C1
6104	E2
6105	D3
6106	F2
6107	E7
6108	G2
6109	A8
6110	A8
6113	C7
6114	G1
6115	D3
6116	F4
6117	C2
6118	C2
6119	C3
6120	G7
6121	G7
6122	F7
6125	B8
6130	C9
6132	C9
6133	D8
6134	C9
6140	D6
6142	F2
6144	E3
6147	D4
6148	F8
6149	F9
6150	G4
6151	G4
6153	H5
6156	G5
6503	D9
6504	B6
6505	E7
6508	H9
6510	C13
6511	A8
6513	A8
6514	B7
6517	A7
6531	F10
6532	C11
6540	F12
6562	F12
7100	F3
7101	D3
7102	C4
7105	F4
7131	B9
7140	G10
7150	G5
7501	F6
7503	D10
7505	G12
7506	C11
7507	C12
7508	H10
7509	H12
7510	F13
7511	A8
7512	A10
7513	B7
7514	A9
7531	E10
7532	D9
7560	E12
9015	E11
9019	A7
9020	C3
9021	B3
9022	B3
9023	C2
9024	D13
9110	H9
9111	D1
9112	E9
9120	B11
9121	B12
F100	E4
F123	B3
F124	B3
F125	E12
F126	E12
F127	H3
F128	H4
F129	H4
F130	H4
F133	H7
F134	H8
I100	B4
I101	B6
I102	B6
I103	C9
I104	C9
I105	B6
I106	C10
I107	C8
I108	C8
I109	C11
I110	C2
I111	C3
I112	C9
I113	C4
I114	C6
I115	C11
I116	C10
I117	C12
I118	C5
I119	C4
I120	C6
I121	C12
I122	C1
I123	C6
I124	C5
I125	D8
I126	D9
I127	B8
I128	D7
I129	D7
I130	C3
I131	C2
I132	D4
I133	D4
I134	D2
I135	D3
I136	D2
I137	E7
I138	E7
I139	E12
I140	C1
I141	D2
I142	D2
I143	D2
I144	D2
I145	D3
I146	D4
I147	E1
I148	E10
I149	E7
I150	E12
I151	E12
I152	F12
I153	E1
I154	E4
I155	E3
I156	E4
I157	F6
I158	F7
I159	F8
I160	F7
I161	F9
I162	E1
I163	F8
I164	F7
I165	G7
I166	F3
I167	F3
I168	G9
I169	F1
I170	G7
I171	F5
I172	F2
I173	F2
I174	F2
I175	F4
I176	G7
I177	F1
I178	G13
I179	G12
I180	G4
I181	G1
I182	G12
I183	G5
I184	G5
I185	F3
I186	G6
I187	D11
I188	D9
I189	H10
I190	G1
I191	G4
I192	H9
I197	C9
I198	D7
I199	D4
I501	F6
I502	F6
I503	F6
I504	G12
I505	F12
I506	F13
I507	F13
I508	A8
I509	A9
I510	A9
I511	A10
I512	H9
I513	D1
I514	E6
I515	E9
I516	D9
I517	C13
I518	B7
I519	B8
I520	A8
I521	A8
I522	A9
I523	A9

Standby & Audio Panel (37”) : Audio

0044 D14
0045 B1
1735 F2
1736 G2
1737 F7
1738 F7
1739 F5
1M02 A9
2702 B5
2704 C2

2705 A7
2706 B4
2707 B4
2708 G4
2709 D6
2710 D6
2711 E2
2712 E5
2713 B7
2714 C3

2715 F4
2716 B3
2717 G4
2718 E3
2719 F5
2720 F4
2721 C1
2722 D1
2723 F8
2725 F6

2726 E2
2727 E2
2728 B3
2729 F3
2741 F11
2743 F13
2753 E13
2754 D11
2755 D11
2756 G12

2758 G9
2759 F8
2762 E13
2764 B2
2766 A4
2768 E5
2769 E5
2777 D1
2778 C5
2779 E2

2780 E5
2781 E5
2782 D12
2783 D7
2784 D13
2785 B13
2786 B4
2787 C5
2788 D1
2789 D2

2790 E2
2791 C7
2792 C8
2793 D13
2794 C9
2795 D13
2796 C10
2797 D8
2798 E8
2799 D13

3701 E6
3702 B6
3703 A6
3704 B6
3705 E4
3706 E6
3707 D6
3708 F6
3709 F5
3710 B3

3711 E4
3712 E3
3713 D7
3714 C6
3715 B6
3716 B6
3717 F3
3718 G4
3720 F7
3721 C1

3722 C1
3723 C1
3724 F1
3725 B4
3726 F1
3727 F5
3729 G9
3730 F7
3741 F11
3743 F3

3744 G11
3746 C6
3747 C6
3748 C5
3749 A7
3750 G3
3751 G8
3752 B8
3753 G8
3754 C8

3755 B10
3756 F3
3757 G3
3758 C10
3759 D8
3760 E8
3761 B12
3762 B12
3763 C12
3764 C12

3765 C12
3766 C14
3767 B12
3768 B13
3790 B4
3791 C2
3792 B3
3793 B4
3794 D11
3795 C5

3796 E11
3797 C5
3798 D6
5701 F4
5702 F2
5703 B5
5704 F7
5705 F6
5707 D1
5708 E1

5711 E6
5712 E4
5720 F9
5722 D13
5723 D13
5730 F2
5731 G2
5732 G8
6701 C6
6702 B12

6703 C12
6704 B6
6710 D8
6711 E8
7700 C3
7701 B7
7702 E11
7703 C7
7704 B5
7705 B6

7706 C6
7707 C5
7708 C13
7709 C13
7710 B13
7711 B13
7712 D9
7713 E9
7714 C5
7715-1 C9

7715-2 C11
9717 B5
9718 B13
F708 F2
F710 G2
F711 A2
F712 B2
F713 C2
F714 B5
F718 D10

F720 G8
F721 G2
F722 F2
F731 G8
F736 G7
F737 G6
F738 F2
F739 G2
F741 G8
F742 B9

F743 B9
F744 B9
F745 A9
F747 G5
F748 G5
F749 G6
F751 F6
I700 E6
I701 E6
I702 A6

I703 B6
I704 A6
I705 D6
I706 D5
I707 E3
I708 F11
I709 C3
I710 F5
I711 B4
I712 A5

I713 B3
I714 C8
I715 A7
I716 C3
I717 B5
I718 B5
I719 F3
I720 C8
I721 E4
I722 B2

I723 B9
I724 E2
I725 E1
I726 C2
I727 B5
I728 C9
I729 C5
I730 F7
I731 B11
I732 C6

I733 C10
I734 F12
I735 D8
I736 E8
I737 C6
I738 C6
I739 B6
I740 D9
I741 E9
I742 C12

I743 C12
I744 E6
I745 B4
I746 E13
I747 D11
I748 F4
I749 E4
I750 B12
I751 A12
I752 E13

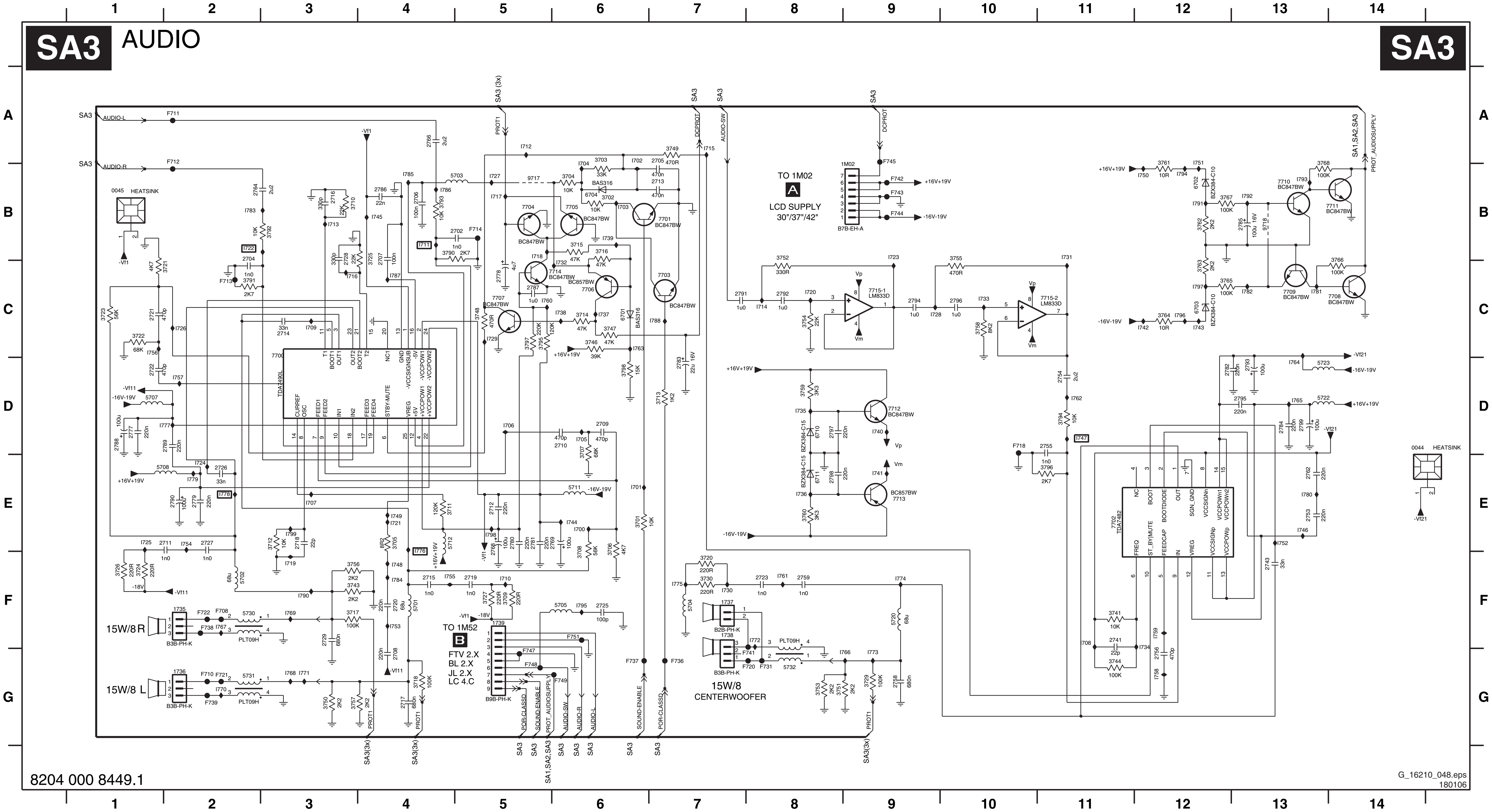
I753 F4
I754 E2
I755 F4
I756 C1
I757 D2
I758 G12
I759 F12
I760 C5
I761 F8
I762 D11

I763 C6
I764 D13
I765 D13
I766 G9
I767 F2
I768 G3
I769 F3
I770 G2
I771 G3
I772 F8

I773 G9
I774 F9
I775 F7
I776 E4
I777 D2
I778 E2
I779 E2
I780 E13
I781 C13
I782 C13

I783 B2
I784 F4
I785 B4
I786 B4
I787 C4
I788 C7
I790 F3
I791 B12
I792 B13
I793 B13

I794 B12
I795 F6
I796 C12
I797 C12
I798 E5
I799 E3

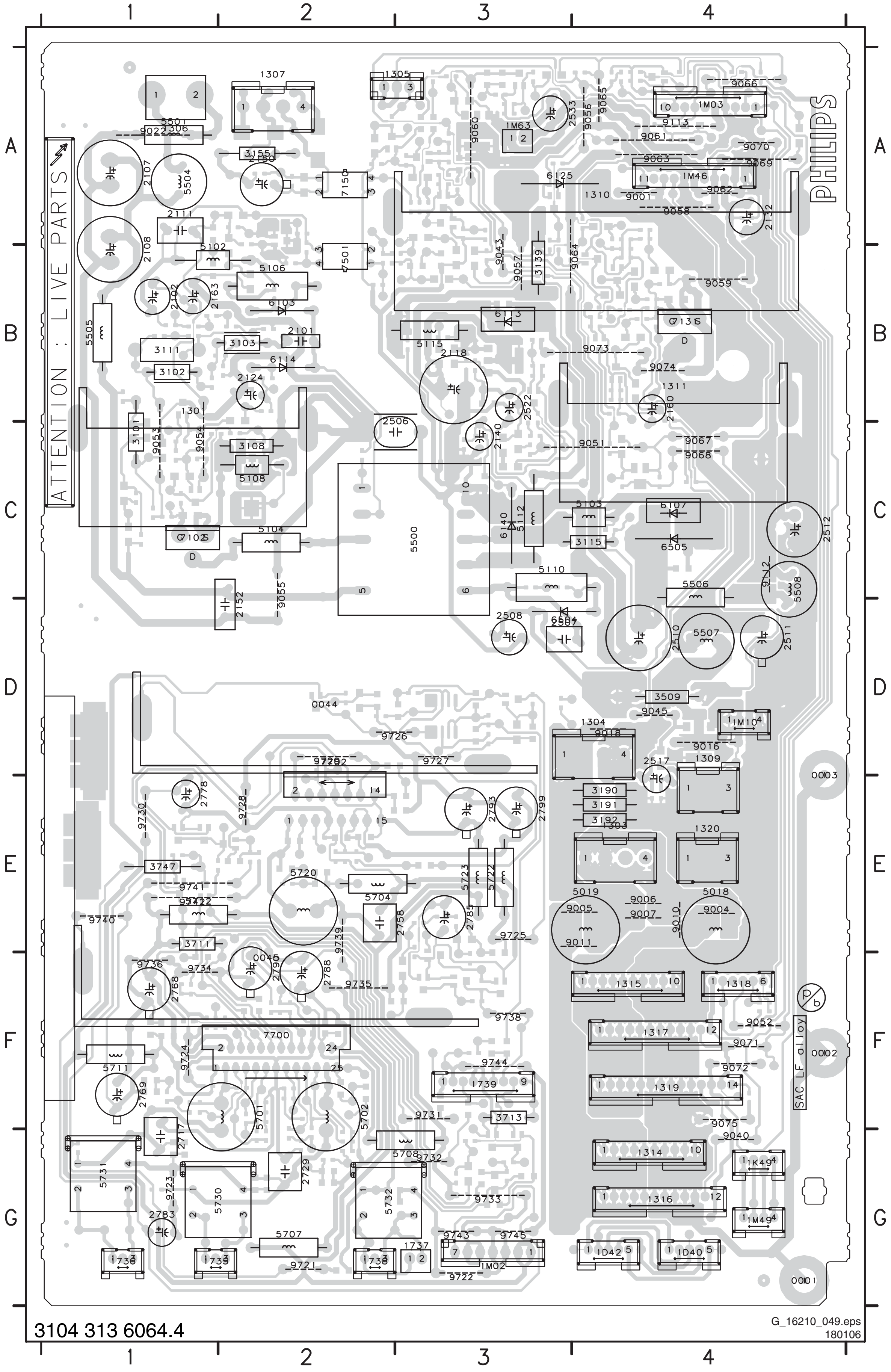

SA3
AUDIO
SA3
AUDIO-L
AUDIO-R
HEATSINK
TDA7490L
7700
TO 1M02
A
LCD SUPPLY
30"/37"/42"
7715-1 LM833D
7715-2 LM833D
7702 TDA7482
TO 1M52
B
FTV 2.X
BL 2.X
JL 2.X
LC 4.C
15W/8 R
15W/8 L
15W/8
CENTERWOOFER
PROT_AUDIOSUPPLY
DCPROT
AUDIO-SW
POR-CLASSD
SOUND-ENABLE
SA1,SA2,SA3
SA3(3x)
+16V+19V
-16V-19V
-Vf1
-Vf11
-Vf21
Vp
Vm
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G

8204 000 8449.1

G_16210_048.eps
180106

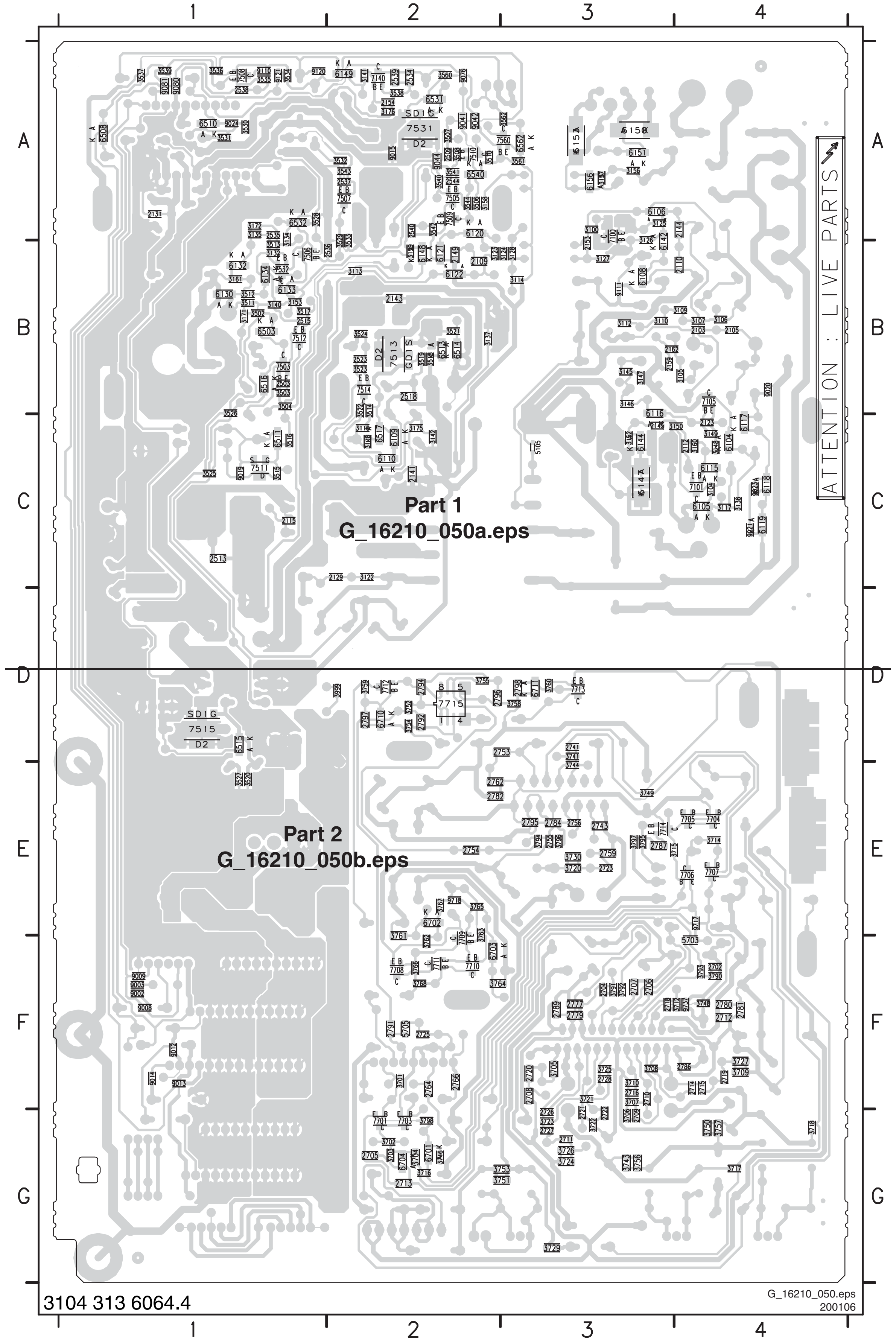
Layout Standby & Audio Panel (37”) (Top Side)

0001	G4
0002	F4
0003	D4
0044	D1
0045	E1
1301	C1
1303	E4
1304	D4
1305	A3
1306	A1
1307	A2
1309	D4
1310	A3
1311	B4
1314	G4
1315	F4
1316	G4
1317	F4
1318	F4
1319	F4
1320	E4
1735	G1
1736	G1
1737	G3
1738	G2
1739	F3
1D40	G4
1D42	G4
1K49	G4
1M02	G3
1M03	A4
1M10	D4
1M46	A4
1M49	G4
1M63	A3
2101	B2
2102	B1
2107	A1
2108	A1
2111	A1
2118	B3
2124	B2
2132	A4
2140	C3
2150	A2
2152	D2
2160	B4
2163	B1
2506	B2
2507	D3
2508	D3
2510	D4
2511	D4
2512	C4
2517	D4
2522	B3
2533	A4
2717	F1
2729	G2
2758	E3
2768	F1
2769	F1
2778	E1
2783	G1
2785	E3
2788	F2
2790	E2
2793	E3
2799	E3
3101	C1
3102	B1
3103	B2
3108	C2
3111	B1
3115	C4
3139	B3
3155	A2
3190	E3
3191	E3
3192	E3
3509	D4
3711	F1
3713	F3
3747	E1
5018	E4
5019	E4
5102	B2
5103	C4
5104	C2
5106	B2
5108	C2
5110	C3
5112	C3
5115	B3
5500	C3
5501	A1
5504	A1
5505	B1
5506	C4
5507	D4
5508	C4
5701	F2
5702	F2
5704	E2
5707	G2
5708	G3
5711	F1
5712	E1
5720	E2
5722	E3
5723	E3
5730	G2
5731	G1
5732	G3
6103	B2
6107	C4
6113	B3
6114	B2
6125	A3
6140	C3
6504	D3
6505	C4
7102	C1
7131	B4
7150	A2
7501	B2
7700	F2
7702	D2
9001	A4
9004	E4
9005	E4
9006	E4
9007	E4
9010	E4
9011	E4
9016	D4
9018	D4
9022	A1
9040	G4
9043	B3
9045	D4
9051	C4
9052	F4
9053	B1
9054	B1
9055	C2
9056	A4
9057	A3
9058	A4
9059	B4
9060	A3
9061	A4
9062	A4
9063	A4
9064	A3
9065	A4
9066	A4
9067	C4
9068	C4
9069	A4
9070	A4
9071	F4
9072	F4
9073	B4
9074	B4
9075	F4
9112	C4
9113	A4
9721	G2
9722	G3
9723	G1
9724	F1
9725	E3
9726	D2
9727	D3
9728	E2
9729	D2
9730	E1
9731	F3
9732	G3
9733	G3
9734	F1
9735	F3
9736	F1
9738	F3
9739	F2
9740	E1
9741	E1
9742	E1
9743	G3
9744	F3
9745	G3

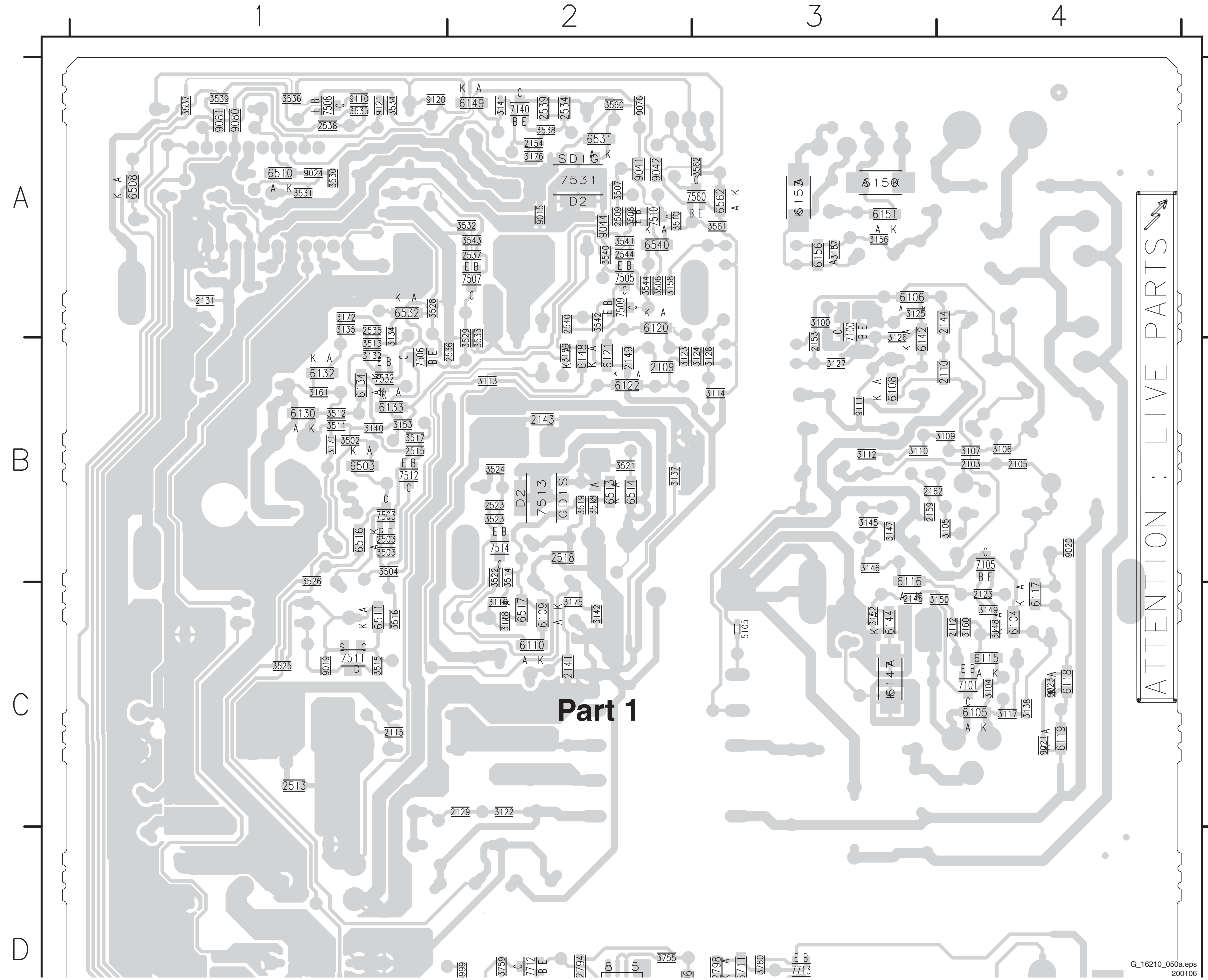


Layout Standby & Audio Panel (37”) (Overview Bottom Side)

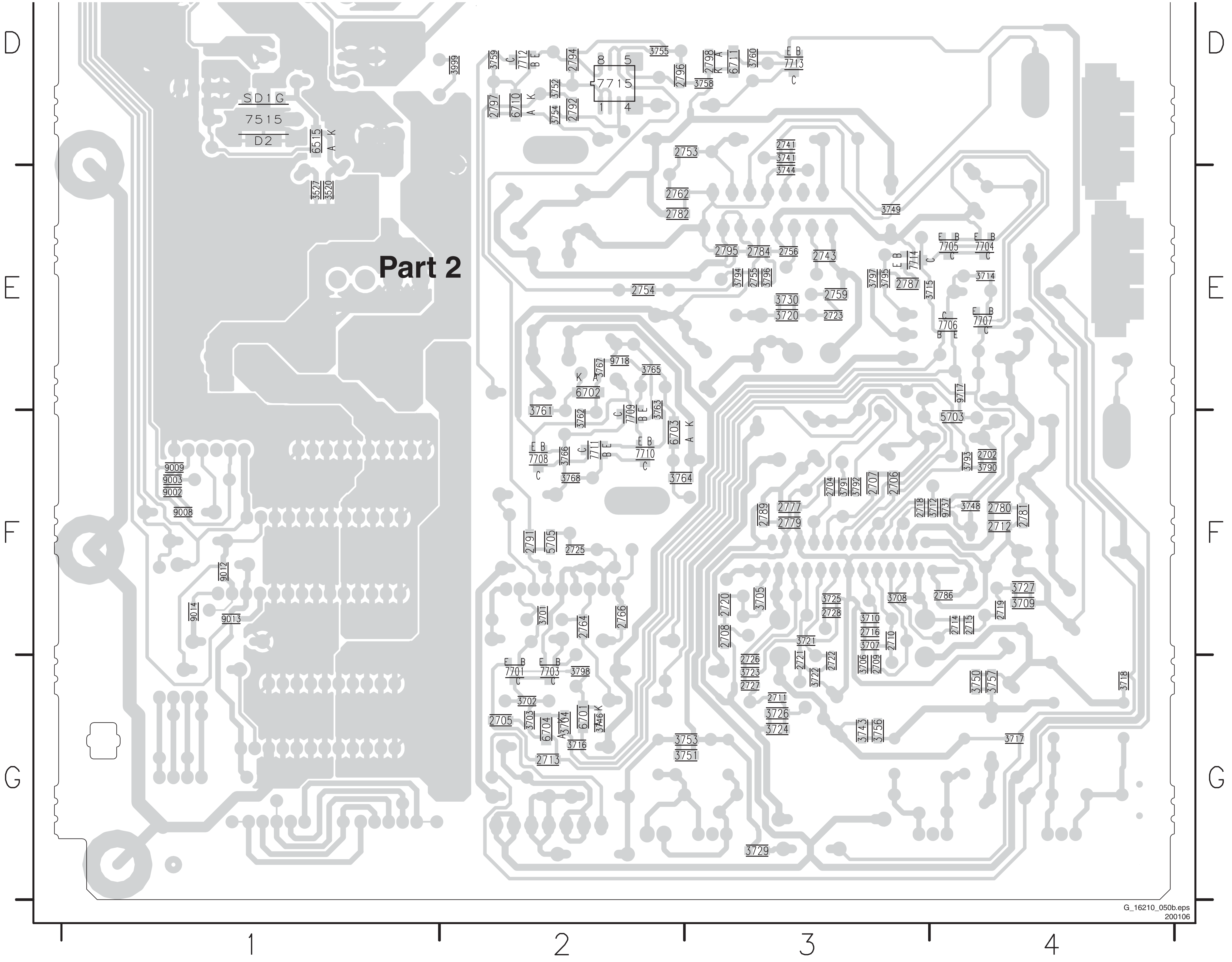
2103	B4
2105	B4
2109	B2
2110	B4
2112	C4
2115	C1
2123	C4
2129	C2
2131	A1
2141	C2
2143	B2
2144	A4
2145	C3
2149	B2
2153	B3
2154	A2
2159	B3
2162	B3
2503	B1
2509	A2
2513	C1
2515	B1
2518	B2
2523	B2
2534	A2
2535	A1
2536	B2
2537	A2
2538	A1
2539	A2
2540	A2
2544	A2
2702	F4
2704	F3
2705	G2
2706	F3
2707	F3
2708	F3
2709	G3
2710	F3
2711	G3
2712	F4
2713	G2
2714	F4
2715	F4
2716	F3
2718	F3
2719	F4
2720	F3
2721	G3
2722	G3
2723	E3
2725	F2
2726	G3
2727	G3
2728	F3
2741	D3
2743	E3
2753	D3
2754	E2
2755	E3
2756	E3
2759	E3
2762	E2
2764	F2
2766	F2
2777	F3
2779	F3
2780	F4
2781	F4
2782	E2
2784	E3
2786	F4
2787	E3
2789	F3
2791	F2
2792	D2
2794	D2
2795	E3
2796	D2
2797	D2
2798	D3
3100	A3
3104	C4
3105	B4
3106	B4
3107	B4
3109	B4
3110	B3
3112	B3
3113	B2
3114	B3
3116	C2
3117	C4
3118	C2
3122	C2
3123	B2
3124	B3
3125	A3
3126	A3
3127	B3
3128	B3
3132	B1
3134	A1
3135	A1
3137	B2
3138	C4
3140	B1
3141	A2
3142	C2
3145	B3
3146	B3
3147	B3
3148	C4
3149	C4
3150	C4
3152	C3
3153	B1
3156	A3
3157	A3
3158	A2
3159	B2
3160	C4
3161	B1
3171	B1
3172	A1
3175	C2
3176	A2
3502	B1
3503	B1
3504	B1
3506	A2
3507	A2
3508	A2
3510	A2
3511	B1
3512	B1
3513	B1
3514	B2
3515	C1
3516	C1
3517	B1
3518	B2
3519	B2
3520	E1
3521	B2
3522	B2
3523	B2
3524	B2
3525	C1
3526	B1
3527	E1
3528	A1
3529	B2
3530	A1
3531	A1
3532	A2
3533	B2
3534	A1
3535	A1
3536	A1
3537	A1
3538	A2
3539	A1
3540	A2
3541	A2
3542	A2
3543	A2
3544	A2
3560	A2
3561	A3
3562	A3
3701	F2
3702	G2
3703	G2
3704	G2
3705	F3
3706	G3
3707	F3
3708	F3
3709	F4
3710	F3
3712	F4
3714	E4
3715	E3
3716	G2
3717	G4
3718	G4
3720	E3
3721	F3
3722	G3
3723	G3
3724	G3
3725	F3
3726	G3
3727	F4
3729	G3
3730	E3
3741	D3
3743	G3
3744	E3
3746	G2
3748	F4
3749	E3
3750	G4
3751	G3
3752	D2
3753	G3
3754	D2
3755	D2
3756	G3
3757	G4
3758	D3
3759	D2
3760	D3
3761	F2
3762	F2
3763	E2
3764	F2
3765	E2
3766	F2
3767	E2
3768	F2
3790	F4
3791	F3
3792	F3
3793	F4
3794	E3
3795	E3
3796	E3
3797	E3
3798	G2
3999	D2
5105	C3
5703	F4
5705	F2
6104	C4
6105	C4
6106	A3
6108	B3
6109	C2
6110	C2
6115	C4
6116	B3
6117	B4
6118	C4
6119	C4
6120	A2
6121	B2
6122	B2
6130	B1
6132	B1
6133	B1
6134	B1
6142	B3
6144	C3
6147	C3
6148	B2
6149	A2
6150	A3
6151	A3
6153	A3
6156	A3
6503	B1
6508	A1
6510	A1
6511	C1
6513	B2
6514	B2
6515	D1
6516	B1
6517	C2
6531	A2
6532	A1
6540	A2
6562	A3
6701	G2
6702	E2
6703	F3
6704	G2
6710	D2
6711	D3
7100	A3
7101	C4
7105	B4
7140	A2
7503	B1
7505	A2
7506	B1
7507	A2
7508	A1
7509	A2
7510	A2
7511	C1
7512	B1
7513	B2
7514	B2
7515	D1
7531	A2
7532	B1
7560	A3
7701	G2
7703	G2
7704	E4
7705	E4
7706	E4
7707	E4
7708	F2
7709	F2
7710	F2
7711	F2
7712	D2
7713	D3
7714	E3
7715	D2
9002	F1
9003	F1
9008	F1
9009	F1
9012	F1
9013	F1
9014	F1
9015	A2
9019	C1
9020	B4
9021	C4
9023	C4
9024	A1
9041	A2
9042	A2
9044	A2
9076	A2
9080	A1
9081	A1
9110	A1
9111	B3
9120	A1
9121	A1
9717	E4
9718	E2
9737	F4



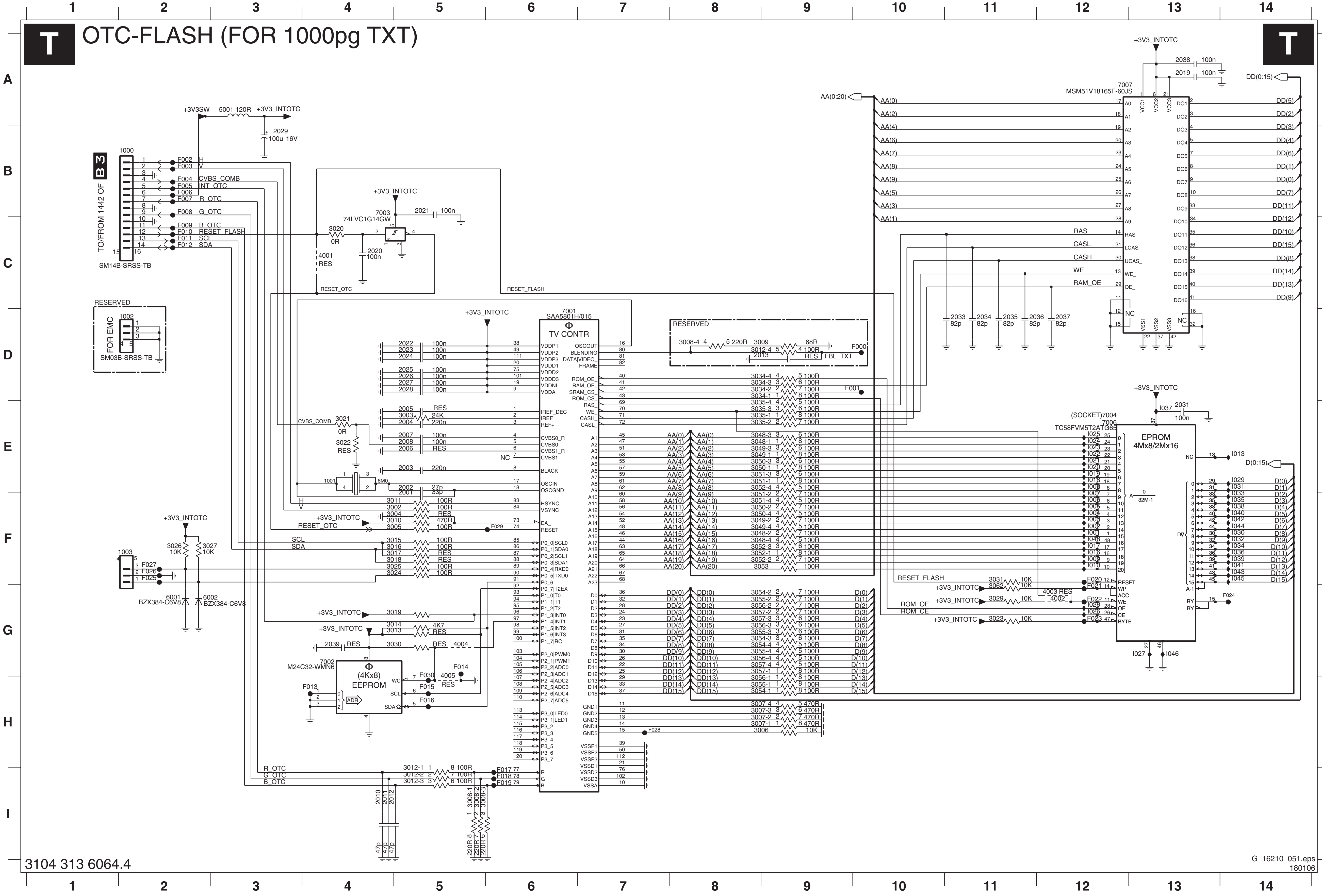
Layout Standby & Audio Panel (37") (Part 1 Bottom Side)


1
2
3
4
A
B
C
D
ATTENTION : LIVE PARTS
Part 1
3537
3539
9081
9080
3536
7508
9110
3535
9121
3534
2538
9120
6149
3141
7140
2539
2534
3560
9076
3538
6531
2154
3176
SD1G
7531
D2
6510
9024
3530
3531
6508
9015
9041
9042
3562
7560
6562
3561
3507
2509
3508
7510
3510
9044
3541
6540
2544
7505
3540
3544
3506
3158
3532
3543
2537
7507
6532
3528
2131
3172
3135
2535
3513
3134
3132
7506
2536
3529
3533
2540
3542
7509
6120
3139
6148
6121
2149
2109
3123
3124
3128
6122
6132
6134
7532
6133
3161
3113
3114
6130
3512
3511
3140
3153
2143
3171
3502
3517
2515
6503
7512
3524
7513
GD1S
6513
6514
3521
3137
3519
3518
2523
3523
7514
7503
2503
3503
6516
2518
3504
3522
3514
3526
3116
3118
6517
6109
3175
3142
6511
3516
6110
2141
3525
9019
7511
3515
2115
2513
2129
3122
6153
6150
6151
3156
6156
3157
6106
3125
2144
3100
2153
7100
3126
6142
3127
2110
6108
9111
3109
3112
3110
3107
3106
2103
2105
2162
2159
3105
3145
3147
9020
3146
6116
7105
2145
3150
2123
6117
3149
3162
6144
2112
3160
3148
6104
5105
6115
7101
3104
6147
9023
6118
6105
3117
3138
9021
6119
999
3759
7712
2794
3755
2798
3711
3760
7713
G_16210_050a.eps
200106

Layout Standby & Audio Panel (37”) (Part 2 Bottom Side)

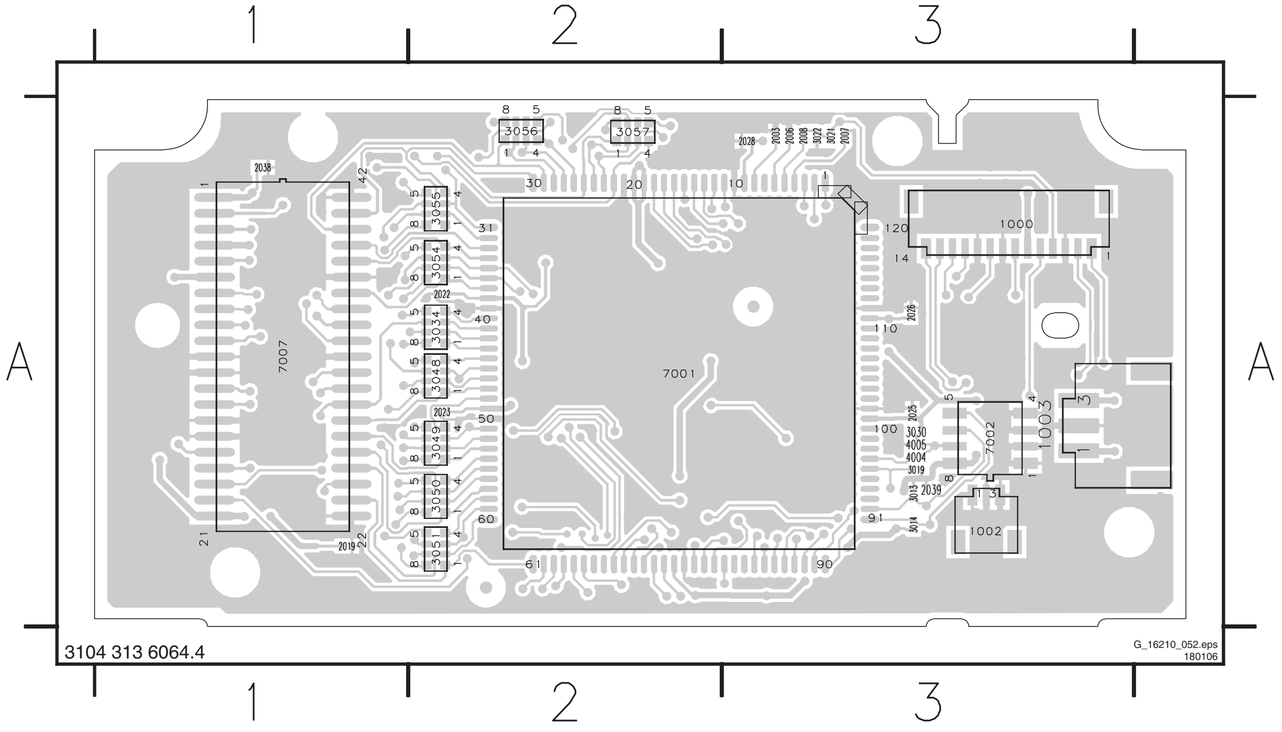

D
E
F
G
1
2
3
4
Part 2
SD1G
7515
D2
6515
3527
3520
3999
3759
7712
2797
6710
3752
3754
2794
2792
7715
3755
2796
3758
2798
6711
3760
7713
2753
2741
3741
3744
2762
2782
3749
2795
2784
2756
2743
3794
2755
3796
2754
3730
3720
2759
2723
3797
3795
7714
2787
3715
7705
7704
3714
7706
7707
9718
3767
3765
6702
3761
3762
7709
3763
6703
7708
3766
7711
7710
3768
3764
9717
5703
3793
2702
3790
2704
3791
3792
2707
2706
2789
2777
2779
2718
3712
9737
3748
2780
2712
2781
9009
9003
9002
9008
9012
9014
9013
2791
5705
2725
3701
2764
2766
2720
3705
2708
3725
2728
3708
2786
3727
3709
3710
2716
3707
2710
2714
2715
2719
3721
2726
3723
2727
2721
3722
2722
3706
2709
7701
7703
3798
3702
2705
3703
6704
3704
6701
3746
3716
2713
2711
3726
3724
3753
3751
3743
3756
3750
3757
3718
3717
3729
G_16210_050b.eps
200106

OTC Flash (For 1000pg TXT) (37")


T
OTC-FLASH (FOR 1000pg TXT)
TO/FROM 1442 OF B3
1000
SM14B-SRSS-TB
F002 H
F003 V
F004 CVBS_COMB
F005 INT_OTC
F006
F007 R_OTC
F008 G_OTC
F009 B_OTC
F010 RESET_FLASH
F011 SCL
F012 SDA
+3V3SW
5001 120R
+3V3_INTOTC
2029 100u 16V
RESERVED
FOR EMC
1002
SM03B-SRSS-TB
7003 74LVC1G14GW
2021 100n
3020 0R
2020 100n
4001 RES
RESET_OTC
RESET_FLASH
7001 SAA5801H/015
TV CONTR
1001
6M0
1003
3026 10K
3027 10K
F027
F026
F025
6001 BZX384-C6V8
6002 BZX384-C6V8
7002 M24C32-WMN6
(4Kx8) EEPROM
ADR
F013
F014
F015
F016
F030
4005 RES
2039 RES
3030 RES
4004
R_OTC
G_OTC
B_OTC
3012-1 8 100R
3012-2 7 100R
3012-3 6 100R
F017
F018
F019
2010 47p
2011 47p
2012 47p
3008-1 220R
3008-2 220R
3008-3 220R
RESERVED
3008-4 220R
3009 68R
3012-4 100R
2013 RES
F000
FBL_TXT
F001
F028
3006 10K
AA(0:20)
DD(0:15)
7007 MSM51V18165F-60JS
2038 100n
2019 100n
RAS
CASL
CASH
WE
RAM_OE
2033 82p
2034 82p
2035 82p
2036 82p
2037 82p
(SOCKET)7004
7006 TC58FVM5T2ATG65
EPROM 4Mx8/2Mx16
2031 100n
D(0:15)
RESET_FLASH
ROM_OE
ROM_CE
3031 10K
3062 10K
3029 10K
3023 10K
4003 RES
4002
F020
F021
F022
F023
F024
3104 313 6064.4
G_16210_051.eps
180106

Item	Location
1000	B2
1001	E4
1002	D2
1003	F2
2001	E5
2002	E5
2003	E5
2004	E5
2005	E5
2006	E5
2007	E5
2008	E5
2010	I4
2011	I4
2012	I4
2013	D9
2019	A13
2020	C4
2021	B5
2022	D5
2023	D5
2024	D5
2025	D5
2026	D5
2027	D5
2028	D5
2029	B3
2031	E13
2033	D11
2034	D11
2035	D11
2036	D12
2037	D12
2038	A13
2039	G4
3002	F5
3003	E5
3004	F5
3005	F5
3006	H9
3007-1	H9
3007-2	H9
3007-3	H9
3007-4	H9
3008-1	I5
3008-2	I5
3008-3	I5
3008-4	D8
3009	D9
3010	F5
3011	F5
3012-1	H5
3012-2	I5
3012-3	I5
3012-4	D9
3013	G5
3014	G5
3015	F5
3016	F5
3017	F5
3018	F5
3019	G5
3020	C4
3021	E4
3022	E4
3023	G11
3024	F5
3025	F5
3026	F2
3027	F2
3029	G11
3030	G5
3031	F11
3034-1	D9
3034-2	D9
3034-3	D9
3034-4	D9
3035-1	E9
3035-2	E9
3035-3	E9
3035-4	E9
3048-1	E9
3048-2	F9
3048-3	E9
3048-4	F9
3049-1	E9
3049-2	F9
3049-3	E9
3049-4	F9
3050-1	E9
3050-2	F9
3050-3	E9
3050-4	F9
3051-1	E9
3051-2	F9
3051-3	E9
3051-4	F9
3052-1	F9
3052-2	F9
3052-3	F9
3052-4	E9
3053	F9
3054-1	H9
3054-2	G9
3054-3	G9
3054-4	G9
3055-1	H9
3055-2	G9
3055-3	G9
3055-4	G9
3056-1	H9
3056-2	G9
3056-3	G9
3056-4	G9
3057-1	G9
3057-2	G9
3057-3	G9
3057-4	G9
3062	G11
4001	C4
4002	G12
4003	G12
4004	G5
4005	H5
5001	A3
6001	G2
6002	G3
7001	D6
7002	G4
7003	B4
7004	E12
7006	E12
7007	A13
F000	D10
F001	D9
F002	B2
F003	B2
F004	B2
F005	B2
F006	B2
F007	B2
F008	B2
F009	C2
F010	C2
F011	C2
F012	C2
F013	H4
F014	G5
F015	H5
F016	H5
F017	I6
F018	I6
F019	I6
F020	F12
F021	G12
F022	G12
F023	G12
F024	G14
F025	F2
F026	F2
F027	F2
F028	H7
F029	F6
F030	H5
I001	F12
I002	F12
I003	F12
I004	F12
I005	F12
I006	F12
I007	F12
I008	E12
I009	F12
I010	F12
I013	E14
I016	F12
I017	F12
I018	E12
I019	E12
I020	E12
I021	E12
I022	E12
I023	E12
I024	E12
I025	E12
I026	G12
I027	G13
I028	G12
I029	E14
I030	F14
I031	E14
I032	F14
I033	F14
I034	F14
I035	F14
I036	F14
I037	E13
I038	F14
I039	F14
I040	F14
I041	F14
I042	F14
I043	F14
I044	F14
I045	F14
I046	G13
I048	F12

Layout OTC Flash (For 1000pg TXT) (37”) (Top View)

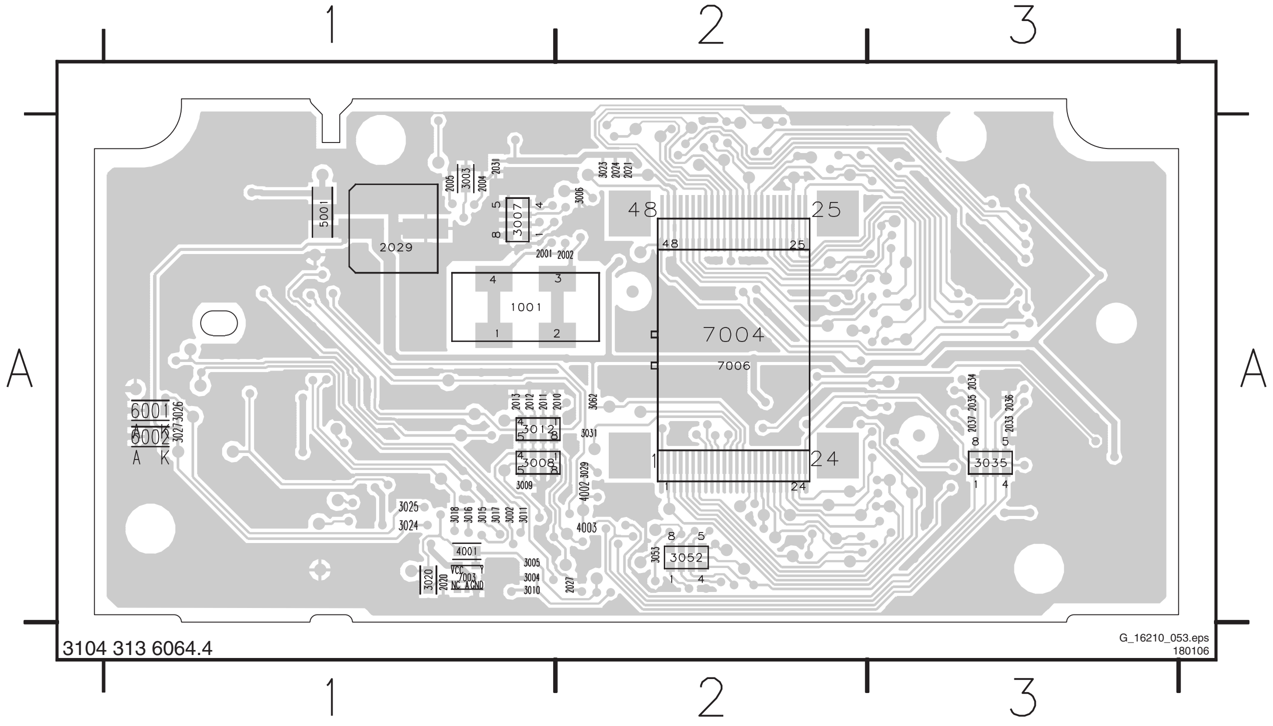

1
2
3
A
7007
7001
7002
1000
1002
1003
3056
3057
3055
3054
3034
3048
3049
3050
3051
3104 313 6064.4

G_16210_052.eps
180106

1000	A3
1002	A3
1003	A3
2003	A3
2006	A3
2007	A3
2008	A3
2019	A1
2022	A2
2023	A2
2025	A3
2026	A3
2028	A3
2038	A1
2039	A3
3013	A3
3014	A3
3019	A3
3021	A3
3022	A3
3030	A3
3034	A2
3048	A2
3049	A2
3050	A2
3051	A2
3054	A2
3055	A2
3056	A2
3057	A2
4004	A3
4005	A3
7001	A2
7002	A3
7007	A1

Layout OTC Flash (For 1000pg TXT) (37”) (Bottom View)

1001	A1
2001	A1
2002	A2
2004	A1
2005	A1
2010	A2
2011	A1
2012	A1
2013	A1
2020	A1
2021	A2
2024	A2
2027	A2
2029	A1
2031	A1
2033	A3
2034	A3
2035	A3
2036	A3
2037	A3
3002	A1
3003	A1
3004	A1
3005	A1
3006	A2
3007	A1
3008	A1
3009	A1
3010	A1
3011	A1
3012	A1
3015	A1
3016	A1
3017	A1
3018	A1
3020	A1
3023	A2
3024	A1
3025	A1
3026	A1
3027	A1
3029	A2
3031	A2
3035	A3
3052	A2
3053	A2
3062	A2
4001	A1
4002	A2
4003	A2
5001	A1
6001	A1
6002	A1
7003	A1
7004	A2
7006	A2


1
2
3
A
5001
2029
1001
3007
7004
7006
6001
6002
3012
3006
3035
3052
4001
3104 313 6064.4

G_16210_053.eps
180106

Personal Notes:

E_06532_012.eps
131004

Personal Notes:

8. Alignments

Index of this chapter:

8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 110-240 V / 50/60 Hz (26 and 32”), 220-240 V / 50/60 Hz (37”).
Allow the set to warm up for approximately 10 minutes.
Test probe: Ri > 10 MΩ; Ci < 2.5 pF.

8.2 Hardware Alignments

There are no hardware alignments foreseen for the LCD-TV.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned. To store the data: Use the RC button Menu to switch to the main menu and next, switch to ‘Stand-by’ mode.

8.3.1 SAM Menu

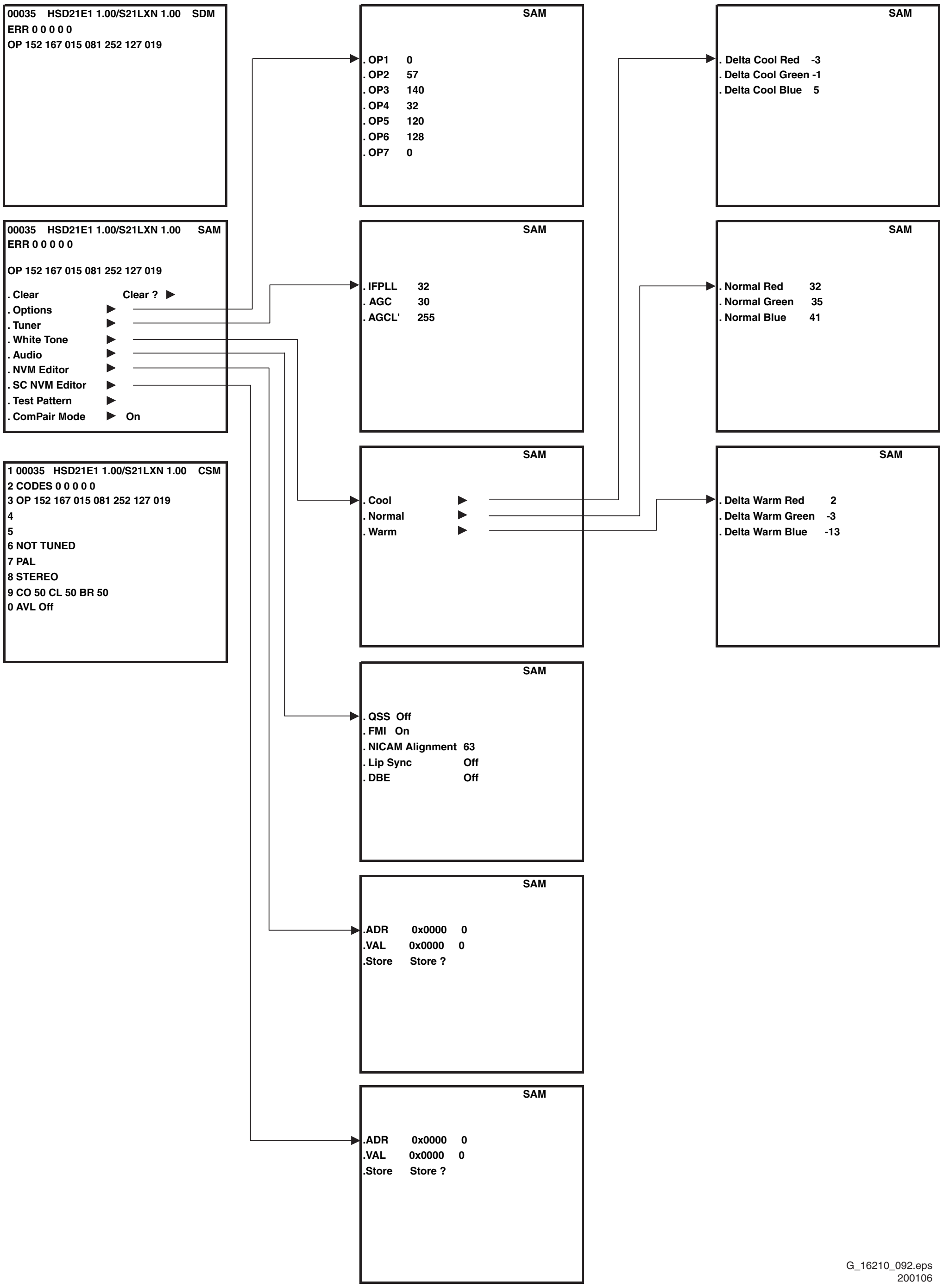

00035 HSD21E1 1.00/S21LXN 1.00 SDM
ERR 0 0 0 0 0
OP 152 167 015 081 252 127 019
00035 HSD21E1 1.00/S21LXN 1.00 SAM
ERR 0 0 0 0 0
OP 152 167 015 081 252 127 019
. Clear Clear ? ▶
. Options ▶
. Tuner ▶
. White Tone ▶
. Audio ▶
. NVM Editor ▶
. SC NVM Editor ▶
. Test Pattern ▶
. ComPair Mode ▶ On
1 00035 HSD21E1 1.00/S21LXN 1.00 CSM
2 CODES 0 0 0 0 0
3 OP 152 167 015 081 252 127 019
4
5
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
SAM
. OP1 0
. OP2 57
. OP3 140
. OP4 32
. OP5 120
. OP6 128
. OP7 0
SAM
. IFPLL 32
. AGC 30
. AGCL' 255
SAM
. Cool ▶
. Normal ▶
. Warm ▶
SAM
. QSS Off
. FMI On
. NICAM Alignment 63
. Lip Sync Off
. DBE Off
SAM
.ADR 0x0000 0
.VAL 0x0000 0
.Store Store ?
SAM
.ADR 0x0000 0
.VAL 0x0000 0
.Store Store ?
SAM
. Delta Cool Red -3
. Delta Cool Green -1
. Delta Cool Blue 5
SAM
. Normal Red 32
. Normal Green 35
. Normal Blue 41
SAM
. Delta Warm Red 2
. Delta Warm Green -3
. Delta Warm Blue -13
G_16210_092.eps
200106

Figure 8-1 Overview SAM menu.

8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)

- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarrier frequency of 4.43 MHz on SCART1 or SCART2.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-1 ADC gain and grey scale alignment

SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM		
Setting	**Hercules NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
NVM_ADC_GAIN_R	006	135
NVM_ADC_GAIN_G	007	185
NVM_ADC_GAIN_B	008	165

SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM		
Setting	**Scaler NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
ADC_RED_OFFSET2	338	070
ADC_GRN_OFFSET2	339	070
ADC_BLU_OFFSET2	340	070
ADC_RED_GAIN	341	240
ADC_GRN_GAIN	343	240
ADC_BLU_GAIN	345	240
PC Greyscale settings		
Setting	**Scaler NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
ADC_RED_OFFSET2	325	070
ADC_GRN_OFFSET2	326	070
ADC_BLU_OFFSET2	327	070
ADC_RED_GAIN	328	150
ADC_GRN_GAIN	330	150
ADC_BLU_GAIN	332	150
HD Greyscale settings		
Setting	**Scaler NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
ADC_RED_OFFSET2	351	064
ADC_GRN_OFFSET2	352	075
ADC_BLU_OFFSET2	353	064
ADC_RED_GAIN	354	180
ADC_GRN_GAIN	356	180
ADC_BLU_GAIN	358	180

8.3.5 Panel Size Settings

The table below shows the NVM settings for panel selection, based on panel size and manufacturer. Use the SC NVM editor in the SAM menu to change the panel code at decimal address 320.

Caution:

- **Make sure to choose the right panel, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-2 Panel size settings

Option table for panel size settings		
Manufacturer	**Size (inch)**	**Panel code (hex)**
LPL	26	1A
LPL	32	0F
LPL	37	0E
Sharp	26	11
Sharp	32	10

8.3.6 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

8.3.7 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their original default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed).
The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).
It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change an Option Byte
As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched “off” and “on” with the AC power switch (cold start).

Table 8-3 Option codes OP1...OP7

Option table for quickly restoring the HERCULES to its Factory Default settings			
Model number	**26PF5321/10/12** **32PF5321/10/12**	**37PF5321/10/12**	**26PF7321/12** **32PF7321/12** **37PF7321/10/12**
OP1	152	152	152
OP2	167	167	167
OP3	47	47	111
OP4	81	113	113
OP5	252	252	252
OP6	27	27	27
OP7	19	19	19
Options (can be changed only via the SAM menu)	**Total decimal value for each option per model number**		

How to Change Options at Bit Level
If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.
Note: the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table **NVM Default values**. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table “ADC Gain and Grey scale alignment” elsewhere in this manual.

Table 8-4 Option codes in detail, at bit level

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu				
	Model number	26PF5321/10/12 32PF5321/10/12	37PF5321/10/12	26PF7321/12 32PF7321/12 37PF7321/10/12
OP1	**Description of feature/option to be switched ON or OFF**			
bit 7 (msb)	OP_PHILIPS_TUNER	1	1	1
bit 6	OP_FM_RADIO	0	0	0
bit 5	OP_LNA	0	0	0
bit 4	OP_ATS // for EU	1	1	1
bit 3	OP_ACI	1	1	1
bit 2	OP_UK_PNP	0	0	0
bit 1	OP_VIRGIN_MODE	0	0	0
bit 0 (lsb)	OP_CHINA	0	0	0
	Total DEC Value	152	152	152
	Total HEX Value	98	98	98
OP2				
bit 7 (msb)	OP_HDMI-2X	1	1	1
bit 6	OP_IBEX (for DVB)	0	0	0
bit 5	OP_CHANNEL_NAMING	1	1	1
bit 4	OP_LTI (Lum Transcient Improvmt)	0	0	0
bit 3	OP_TILT	0	0	0
bit 2	OP_FINE_TUNING	1	1	1
bit 1	OP_BACKLIGHT_DIMMING (for Malibu only)	1	1	1
bit 0 (lsb)	OP_HUE	1	1	1
	Total DEC Value	167	167	167
	Total HEX Value	A7	A7	A7
OP3				
bit 7 (msb)	OP_EW_FUNCTION	0	0	0
bit 6	OP_PIXEL_PLUS (for Option A)	0	0	0
bit 5	OP_SCL_RECOVERY	1	1	1
bit 4	OP_SPLITTER // temp	0	0	0
bit 3	OP_VIRTUAL_DOLBY	1	1	1
bit 2	OP_WIDE_SCREEN	1	1	1
bit 1	OP_WSSB	1	1	1
bit 0 (lsb)	OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation	1	1	1
	Total DEC Value	47	47	111
	Total HEX Value	2F	2F	6F
OP4				
bit 7 (msb)	OP_LIP_SYNC (for PDP only)	0	0	0
bit 6	OP_HD	1	1	1
bit 5	OP_1000P_TEXT	0	1	1
bit 4	OP_DELTA_VOLUME	1	1	1
bit 3	OP_TAIWAN_KOREA	0	0	0
bit 2	OP_VOLUME_LIMITER	0	0	0
bit 1	OP_STEREO_DBX	0	0	0
bit 0 (lsb)	OP_STEREO_NICAM_2CS	1	1	1
	Total DEC Value	81	113	113
	Total HEX Value	51	71	71
OP5				
bit 7 (msb)	OP_AV1	1	1	1
bit 6	OP_AV2	1	1	1
bit 5	OP_AV3	1	1	1
bit 4	OP_CVI	1	1	1
bit 3	OP_SVHS2	1	1	1
bit 2	OP_SVHS3	1	1	1
bit 1	OP_HOTEL_MODE	0	0	0
bit 0 (lsb)	OP_SIMPLY_FACTORY=OP_BTSC_AVSTEREO	0	0	0
	Total DEC Value	252	252	252
	Total HEX Value	FC	FC	FC
OP6				
bit 7 (msb)	OP_PERSONAL_ZAPPING	0	0	0
bit 6	OP_SMART_SURF	0	0	0
bit 5	OP_FMTRAP	0	0	0
bit 4	OP_COMBFILTER	1	1	1
bit 3	OP_ACTIVE_CONTROL	1	1	1
bit 2	OP_VIDEO_TEXT	0	0	0
bit 1	OP_LIGHT_SENSOR	1	1	1
bit 0 (lsb)	OP_TWIN_TEXT	1	1	1
	Total DEC Value	27	27	27
	Total HEX Value	1B	1B	1B
OP7				
bit 7 (msb)	OP_TIME_WIN1	0	0	0
bit 6	OP_DVB_USB = OP_MALAY	0	0	0
bit 5	OP_AMBILIGHT	0	0	0
bit 4	OP_COLUMBUS	1	1	1
bit 3	OP_DUMMY6	0	0	0
bit 2	OP_DUMMY7	0	0	0
bit 1	OP_WEST_EU	1	1	1
bit 0 (lsb)	OP_MULTI_STANDARD_EUR	1	1	1
	Total DEC Value	19	19	19
	Total HEX Value	13	13	13

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 Introduction
9.2 Block Diagram
9.3 Power Supply Unit
9.4 Abbreviation List
9.5 IC Data Sheets

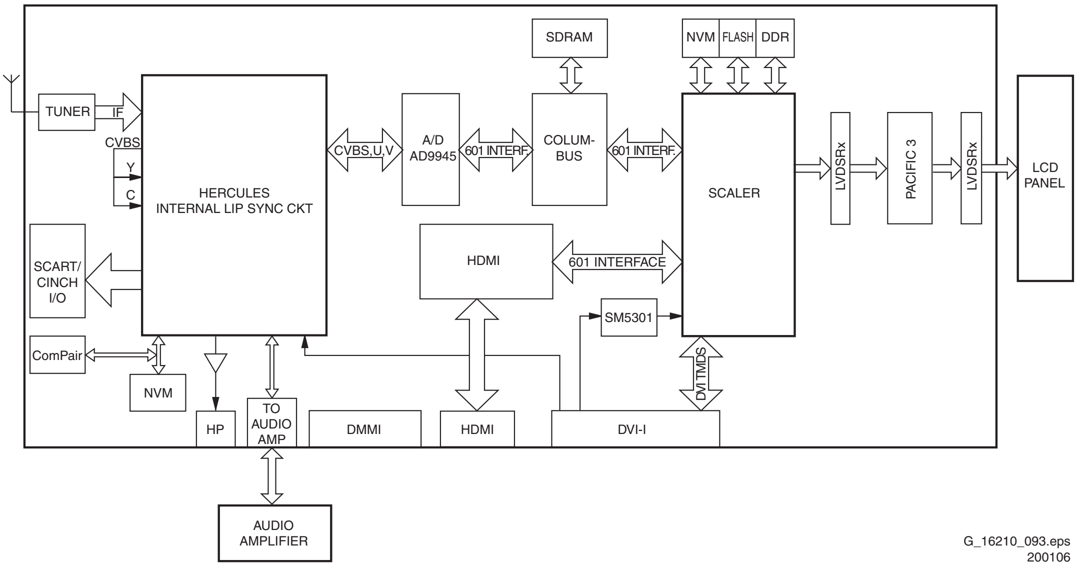
9.1 Introduction

The LC4.31 chassis is a global chassis for the year 2006. It is the successor of the LC4.3 chassis and covers screen sizes of 26, 32 and 37 inch (in 16:9 ratio). It has two new stylings, called ME5FL and ME6. There are two different picture qualities available, depending on the model: Pixel Plus in the xxPF7321/10 and /12 models, and Digital Crystal Clear in the xxPF5321/10 and /12 models. The block diagram below (Figure “Block diagram”) shows the Pixel Plus architecture; the architectures of the Digital Crystal Clear models are shown in the block diagram on the next page (Figure “Block diagram of the internal building blocks“).

The architecture consists of a TV and Scaler panel, I/O panel, Side I/O and Local Keyboard panel and Power Supply panel. The functions for video/audio processing, microprocessor (P), and CC/Teletext (TXT) decoder are all combined in one IC (TDA150xx, item 7217), the so-called third generation Ultimate One Chip (UOC-III) or “Hercules”. This chip has the following features:

- Control, small signal, mono/stereo, and extensive Audio/Video switching in one IC.
- Upgrade with digital sound & video processing.
- Alignment free IF, including SECAM-L/L1 and AM.
- FM sound 4.5/5.5/6.0/6.5, no traps/bandpass filters.
- Full multi-standard colour decoder.
- One Xtal reference for all functions (microprocessor, RCP, TXT/CC, RDS, colour decoder, and stereo sound processor).

9.2 Block Diagram


TUNER
IF
CVBS
Y
C
HERCULES
INTERNAL LIP SYNC CKT
SCART/
CINCH
I/O
ComPair
NVM
HP
TO
AUDIO
AMP
DMMI
HDMI
DVI-I
AUDIO
AMPLIFIER
CVBS,U,V
A/D
AD9945
601 INTERF.
SDRAM
COLUM-
BUS
601 INTERF.
NVM
FLASH
DDR
SCALER
HDMI
601 INTERFACE
SM5301
DVI TMDS
LVDSRx
PACIFIC 3
LVDSRx
LCD
PANEL

G_16210_093.eps
200106

Figure 9-1 Block Diagram

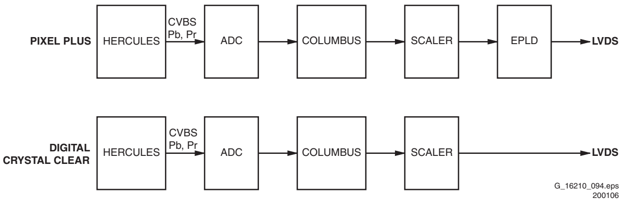
The function is basically the same as in the LC4.3E AA, with the following differences:

- the model range only contains models with Digital Crystal Clear or Pixel Plus;
- Pixel Plus is performed by a new IC, called Pacific 3.

The Pacific 3 IC, which is present in Pixel Plus models, provides additional sharpening, and contrast and colour enhancements to the picture. For a general outline, see the table and the block diagrams below, in which the architectures of the two different models are given, together with their electronic building blocks.

Table 9-1 Models and picture quality

Model	Picture quality
xxPF5321/10/12	Digital Crystal Clear
xxPF7321/10/12	Pixel Plus


PIXEL PLUS
HERCULES
CVBS
Pb, Pr
ADC
COLUMBUS
SCALER
EPLD
LVDS
DIGITAL
CRYSTAL CLEAR
HERCULES
CVBS
Pb, Pr
ADC
COLUMBUS
SCALER
LVDS

G_16210_094.eps
200106

Figure 9-2 Block diagram of the internal building blocks

For more information, please refer to manual LC4.3E AA, 12NC 3122 785 15270

9.3 Power Supply Unit

9.3.1 Description

The power supply is a bought module, that consists of the following parts:

- the AC mains input with fuse;
- a separate stand-by supply;

- the mains harmonic circuit;
- the mains rectifier.

The power supply provides the following output voltages:

- 3.3V for the UOCIII, Scaler and other digital circuits;
- unregulated 12V, which is converted to regulated 5V, 8V, and 12V;
- a so-called bolt-on supply, which provides 12V for bolt-on devices (not covered in this manual).

9.3.2 States and Sub-states of the Power Supply

The power supply has three different states. Each of these states has a couple of sub-states:

1. POWER OFF:
   a. PASSIVE OFF:
   The set is switched off completely, the mains cable is disconnected. When the mains is re-connected, the set switches to the last STAND-BY status.
   b. ACTIVE OFF:
   The set is connected to the mains, and consuming a minimum amount of power. This sub-state is similar to NORMAL STAND-BY, but all LED indicators are off. Switch to the ON or STAND-BY mode with the POWER ON/OFF button (in the NAFTA region also with the STAND-BY KEY of the RC).
2. STAND-BY:
   a. NORMAL STAND-BY:
   Only Hercules and NVM are connected to the power (+3V3STBY), other circuits are disconnected. The LED lights red. The signal from a control port can switch the set OFF or ON.
   b. SEMI STAND-BY:
   Only on DVB sets. In this state the LED lights red. +3V3STBY, +12VUNREG, and +12V iBOZ remain ON for a certain time. After that time only +3V3STBY stays ON, only powering Hercules and NVM, so the set is in NORMAL STAND-BY.
3. POWER ON:
   This is the normal operating mode. All power supply lines are available. All circuits are active. From this mode the set can switch to NORMAL STAND-BY, SEMI STAND-BY, OFF, or PROTECTION.

9.4 Abbreviation List

0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format
1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound (or 2 Channel Stereo)
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control; Control signal used to tune and lock to the correct frequency
AGC	Automatic gain control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude
AM	Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value
AP or A/P	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	External Audio Video
B-SC1-IN	Blue SCART1/EXT1 in
B-SC2-IN	Blue SCART2/EXT2 in
B-TXT	Blue TeleteXT
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
C-FRONT	Chrominance front input
CBA	Circuit Board Assembly (also called PCB or PWB)
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look-Up Table
COLUMBUS	COLour LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface
CSM	Customer Service Mode
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DFU	Directions For Use: Owner's manual
DNR	Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set
DRAM	Dynamic RAM; dynamically refreshed RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair)
EEPROM	Electrically Erasable and Programmable Read Only Memory
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)

EU	Europe
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level
FM	Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal
FRC	Frame Rate Converter
H	H_sync to the module
HA	Horizontal Acquisition; horizontal sync pulse
HD	High Definition
HP	HeadPhone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band
I^2C	Integrated IC bus
I^2S	Integrated IC Sound bus
IC	Integrated Circuit
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt ReQuest
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences
LATAM	LATin AMerica
LC04	Philips chassis name for LCD TV 2004 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LS	LoudSpeaker
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video
MSP	Multi-standard Sound Processor: ITT sound decoder
MUTE	MUTE Line
NC	Not Connected
NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory; IC containing data such as alignment values, preset stations
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
PIP	Picture In Picture
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PWB	Printed Wiring Board (also called PCB or CBA)
RAM	Random Access Memory
RC	Remote Control transmitter
RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver
RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
ROM	Read Only Memory
SAM	Service Alignment Mode
S/C	Short Circuit
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector)
SCL	Serial CLock Signal on I^2C bus
SD	Standard Definition
SDA	Serial DAta Signal on I^2C bus
SDRAM	Synchronous DRAM
SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SND	SouND
SOPS	Self Oscillating Power Supply
SRAM	Static RAM
STBY	STandBY
SVHS	Super Video Home System
SW	Software or Subwoofer or Switch
THD	Total Harmonic Distortion
TXT	Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI)
uP	Microprocessor
VA	Vertical Acquisition

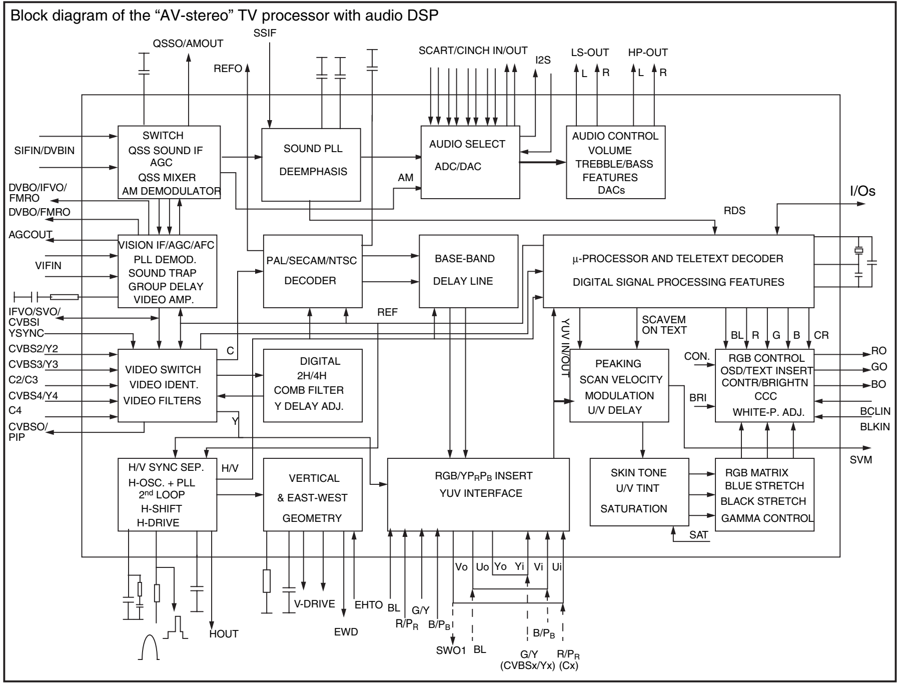
VL	Variable Level out: processed audio output towards external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array; 640x480 (4:3)
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
Y	Luminance signal
Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal
YPbPr	This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV
YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals

9.5 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.5.1 Diagram B2, Type TDA15021H (IC7217, Hercules)

Block Diagram


Block diagram of the “AV-stereo” TV processor with audio DSP
QSSO/AMOUT
SSIF
REFO
SCART/CINCH IN/OUT
I2S
LS-OUT
HP-OUT
L
R
L
R
SIFIN/DVBIN
SWITCH
QSS SOUND IF
AGC
QSS MIXER
AM DEMODULATOR
SOUND PLL
DEEMPHASIS
AM
AUDIO SELECT
ADC/DAC
AUDIO CONTROL
VOLUME
TREBBLE/BASS
FEATURES
DACs
I/Os
DVBO/IFVO/
FMRO
DVBO/FMRO
RDS
AGCOUT
VIFIN
VISION IF/AGC/AFC
PLL DEMOD.
SOUND TRAP
GROUP DELAY
VIDEO AMP.
PAL/SECAM/NTSC
DECODER
BASE-BAND
DELAY LINE
μ-PROCESSOR AND TELETEXT DECODER
DIGITAL SIGNAL PROCESSING FEATURES
IFVO/SVO/
CVBSI
YSYNC
REF
YUV IN/OUT
SCAVEM
ON TEXT
BL
R
G
B
CR
CVBS2/Y2
CVBS3/Y3
C2/C3
CVBS4/Y4
C4
CVBSO/
PIP
C
VIDEO SWITCH
VIDEO IDENT.
VIDEO FILTERS
DIGITAL
2H/4H
COMB FILTER
Y DELAY ADJ.
Y
PEAKING
SCAN VELOCITY
MODULATION
U/V DELAY
CON.
BRI
RGB CONTROL
OSD/TEXT INSERT
CONTR/BRIGHTN
CCC
WHITE-P. ADJ.
RO
GO
BO
BCLIN
BLKIN
SVM
H/V SYNC SEP.
H-OSC. + PLL
2nd LOOP
H-SHIFT
H-DRIVE
H/V
VERTICAL
& EAST-WEST
GEOMETRY
RGB/YPRPB INSERT
YUV INTERFACE
SKIN TONE
U/V TINT
SATURATION
RGB MATRIX
BLUE STRETCH
BLACK STRETCH
GAMMA CONTROL
SAT
Vo
Uo
Yo
Yi
Vi
Ui
HOUT
V-DRIVE
EWD
EHTO
BL
R/PR
G/Y
B/PB
SWO1
BL
B/PB
G/Y
(CVBSx/Yx)
R/PR
(Cx)

Pin Configuration

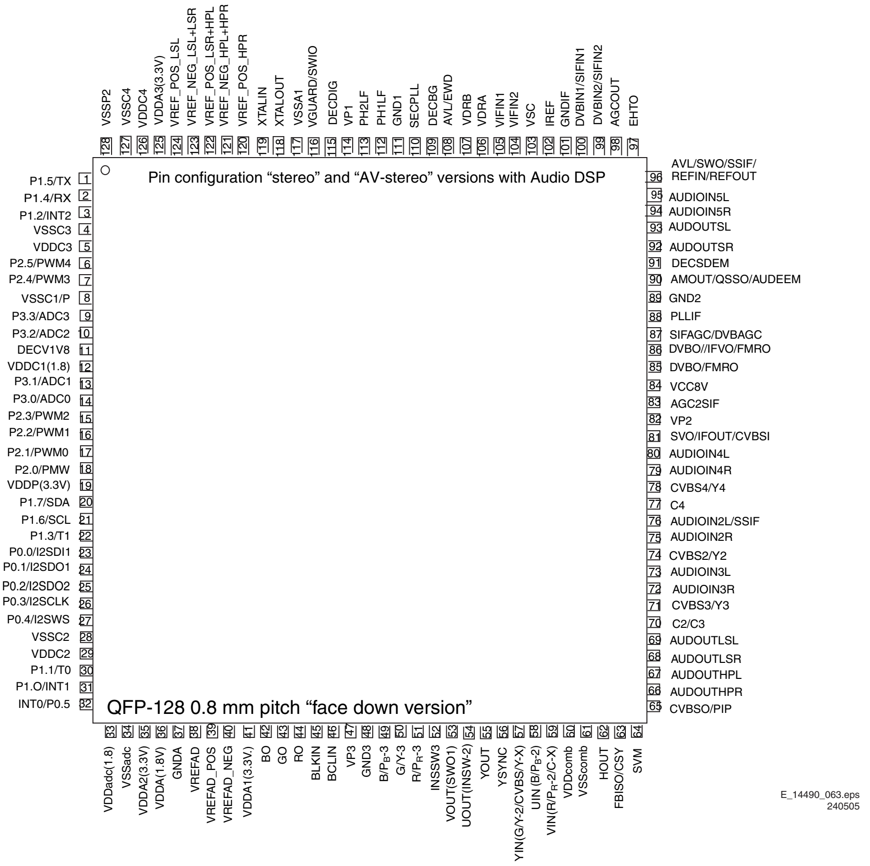
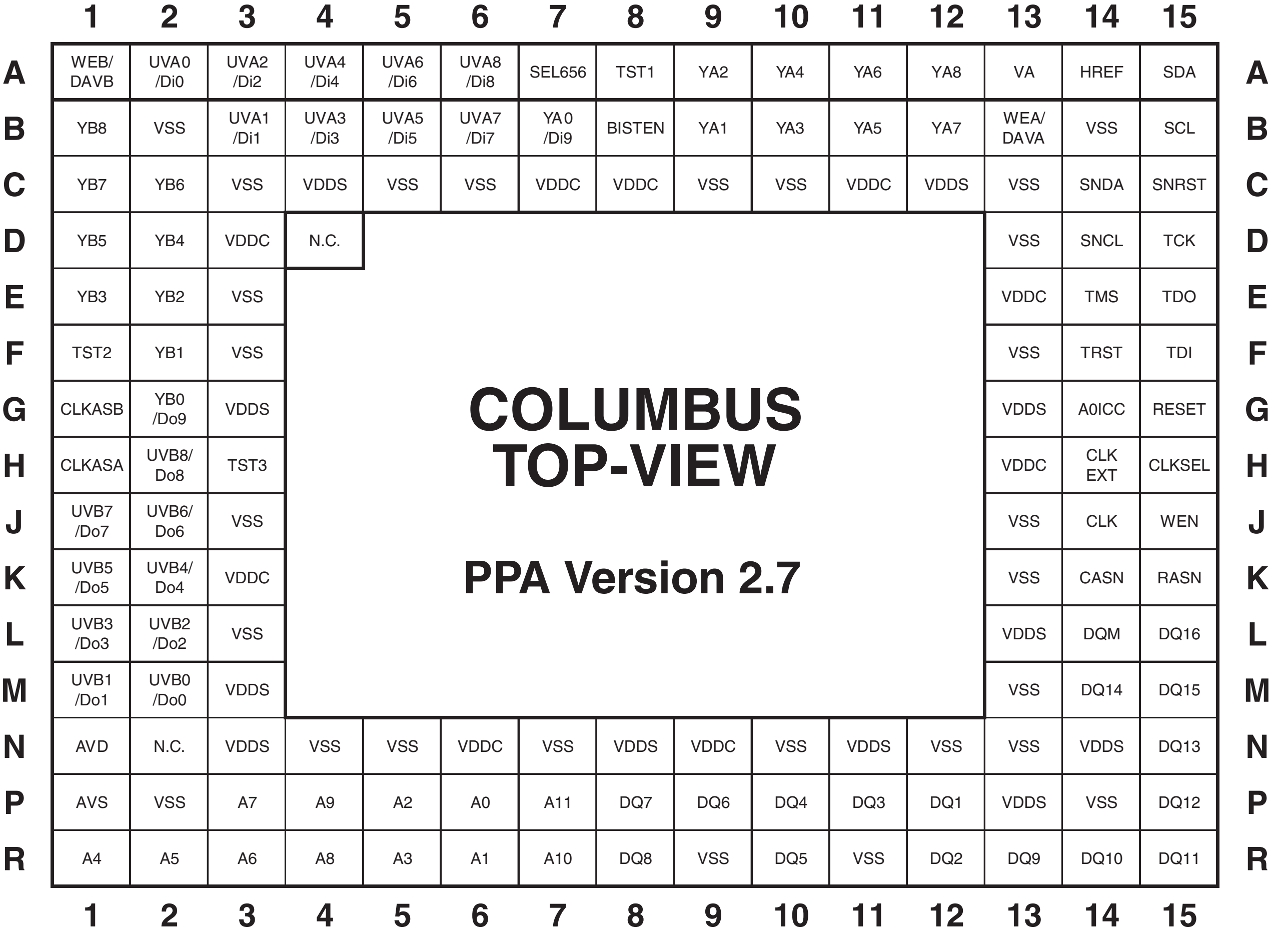

Pin configuration “stereo” and “AV-stereo” versions with Audio DSP
QFP-128 0.8 mm pitch “face down version”
1 P1.5/TX
2 P1.4/RX
3 P1.2/INT2
4 VSSC3
5 VDDC3
6 P2.5/PWM4
7 P2.4/PWM3
8 VSSC1/P
9 P3.3/ADC3
10 P3.2/ADC2
11 DECV1V8
12 VDDC1(1.8)
13 P3.1/ADC1
14 P3.0/ADC0
15 P2.3/PWM2
16 P2.2/PWM1
17 P2.1/PWM0
18 P2.0/PMW
19 VDDP(3.3V)
20 P1.7/SDA
21 P1.6/SCL
22 P1.3/T1
23 P0.0/I2SDI1
24 P0.1/I2SDO1
25 P0.2/I2SDO2
26 P0.3/I2SCLK
27 P0.4/I2SWS
28 VSSC2
29 VDDC2
30 P1.1/T0
31 P1.O/INT1
32 INT0/P0.5
33 VDDadc(1.8)
34 VSSadc
35 VDDA2(3.3V)
36 VDDA(1.8V)
37 GNDA
38 VREFAD
39 VREFAD_POS
40 VREFAD_NEG
41 VDDA1(3.3V)
42 BO
43 GO
44 RO
45 BLKIN
46 BCLIN
47 VP3
48 GND3
49 B/PB-3
50 G/Y-3
51 R/PR-3
52 INSSW3
53 VOUT(SWO1)
54 UOUT(INSW-2)
55 YOUT
56 YSYNC
57 YIN(G/Y-2/CVBS/Y-X)
58 UIN (B/PB-2)
59 VIN(R/PR-2/C-X)
60 VDDcomb
61 VSScomb
62 HOUT
63 FBISO/CSY
64 SVM
65 CVBSO/PIP
66 AUDOUTHPR
67 AUDOUTHPL
68 AUDOUTLSR
69 AUDOUTLSL
70 C2/C3
71 CVBS3/Y3
72 AUDIOIN3R
73 AUDIOIN3L
74 CVBS2/Y2
75 AUDIOIN2R
76 AUDIOIN2L/SSIF
77 C4
78 CVBS4/Y4
79 AUDIOIN4R
80 AUDIOIN4L
81 SVO/IFOUT/CVBSI
82 VP2
83 AGC2SIF
84 VCC8V
85 DVBO/FMRO
86 DVBO//IFVO/FMRO
87 SIFAGC/DVBAGC
88 PLLIF
89 GND2
90 AMOUT/QSSO/AUDEEM
91 DECSDEM
92 AUDOUTSR
93 AUDOUTSL
94 AUDIOIN5R
95 AUDIOIN5L
96 AVL/SWO/SSIF/REFIN/REFOUT
97 EHTO
98 AGCOUT
99 DVBIN2/SIFIN2
100 DVBIN1/SIFIN1
101 GNDIF
102 IREF
103 VSC
104 VIFIN2
105 VIFIN1
106 VDRA
107 VDRB
108 AVL/EWD
109 DECBG
110 SECPLL
111 GND1
112 PH1LF
113 PH2LF
114 VP1
115 DECDIG
116 VGUARD/SWIO
117 VSSA1
118 XTALOUT
119 XTALIN
120 VREF_POS_HPR
121 VREF_NEG_HPL+HPR
122 VREF_POS_LSR+HPL
123 VREF_NEG_LSL+LSR
124 VREF_POS_LSL
125 VDDA3(3.3V)
126 VDDC4
127 VSSC4
128 VSSP2
E_14490_063.eps
240505

Figure 9-3 Internal block diagram and pin configuration

9.5.2 Diagram B19, Type T6TU5XB (IC7M00, Columbus)

Figure 1 Package outline (top view)



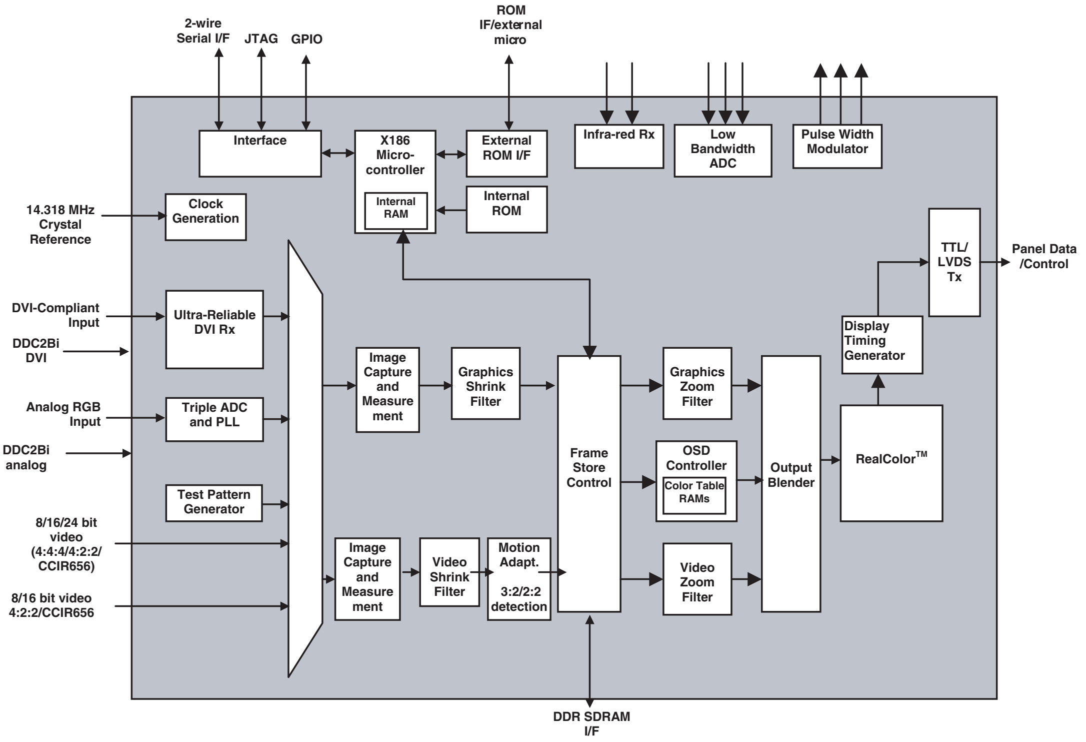
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
A	WEB/DAVB	UVA0/Di0	UVA2/Di2	UVA4/Di4	UVA6/Di6	UVA8/Di8	SEL656	TST1	YA2	YA4	YA6	YA8	VA	HREF	SDA	A
B	YB8	VSS	UVA1/Di1	UVA3/Di3	UVA5/Di5	UVA7/Di7	YA0/Di9	BISTEN	YA1	YA3	YA5	YA7	WEA/DAVA	VSS	SCL	B
C	YB7	YB6	VSS	VDDS	VSS	VSS	VDDC	VDDC	VSS	VSS	VDDC	VDDS	VSS	SNDA	SNRST	C
D	YB5	YB4	VDDC	N.C.									VSS	SNCL	TCK	D
E	YB3	YB2	VSS										VDDC	TMS	TDO	E
F	TST2	YB1	VSS										VSS	TRST	TDI	F
G	CLKASB	YB0/Do9	VDDS										VDDS	A0ICC	RESET	G
H	CLKASA	UVB8/Do8	TST3										VDDC	CLK EXT	CLKSEL	H
J	UVB7/Do7	UVB6/Do6	VSS										VSS	CLK	WEN	J
K	UVB5/Do5	UVB4/Do4	VDDC										VSS	CASN	RASN	K
L	UVB3/Do3	UVB2/Do2	VSS										VDDS	DQM	DQ16	L
M	UVB1/Do1	UVB0/Do0	VDDS										VSS	DQ14	DQ15	M
N	AVD	N.C.	VDDS	VSS	VSS	VDDC	VSS	VDDS	VDDC	VSS	VDDS	VSS	VSS	VDDS	DQ13	N
P	AVS	VSS	A7	A9	A2	A0	A11	DQ7	DQ6	DQ4	DQ3	DQ1	VDDS	VSS	DQ12	P
R	A4	A5	A6	A8	A3	A1	A10	DQ8	VSS	DQ5	VSS	DQ2	DQ9	DQ10	DQ11	R
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

E_14600_059.eps
200804

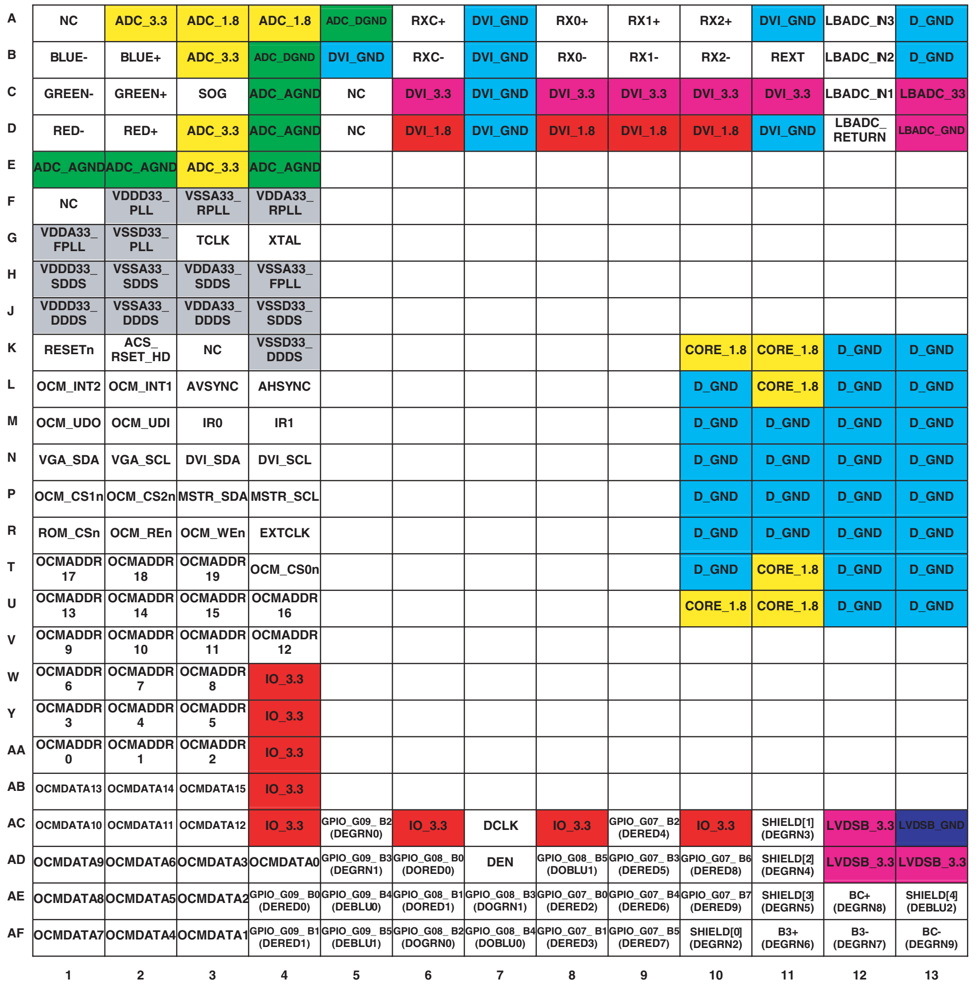
Figure 9-4 Pin configuration

9.5.3 Diagram B7+B8+B9, Type GM1501 (IC7401, Genesis)

Block Diagram


2-wire Serial I/F
JTAG
GPIO
Parallel ROM IF/external micro
Interface
X186 Micro-controller
Internal RAM
External ROM I/F
Internal ROM
Infra-red Rx
Low Bandwidth ADC
Pulse Width Modulator
14.318 MHz Crystal Reference
Clock Generation
TTL/ LVDS Tx
Panel Data /Control
DVI-Compliant Input
DDC2Bi DVI
Ultra-Reliable DVI Rx
Analog RGB Input
DDC2Bi analog
Triple ADC and PLL
Test Pattern Generator
8/16/24 bit video (4:4:4/4:2:2/ CCIR656)
8/16 bit video 4:2:2/CCIR656
Image Capture and Measurement
Graphics Shrink Filter
Frame Store Control
Graphics Zoom Filter
OSD Controller
Color Table RAMs
Output Blender
Display Timing Generator
RealColor™
Image Capture and Measurement
Video Shrink Filter
Motion Adapt. 3:2/2:2 detection
Video Zoom Filter
DDR SDRAM I/F

Pin Configuration



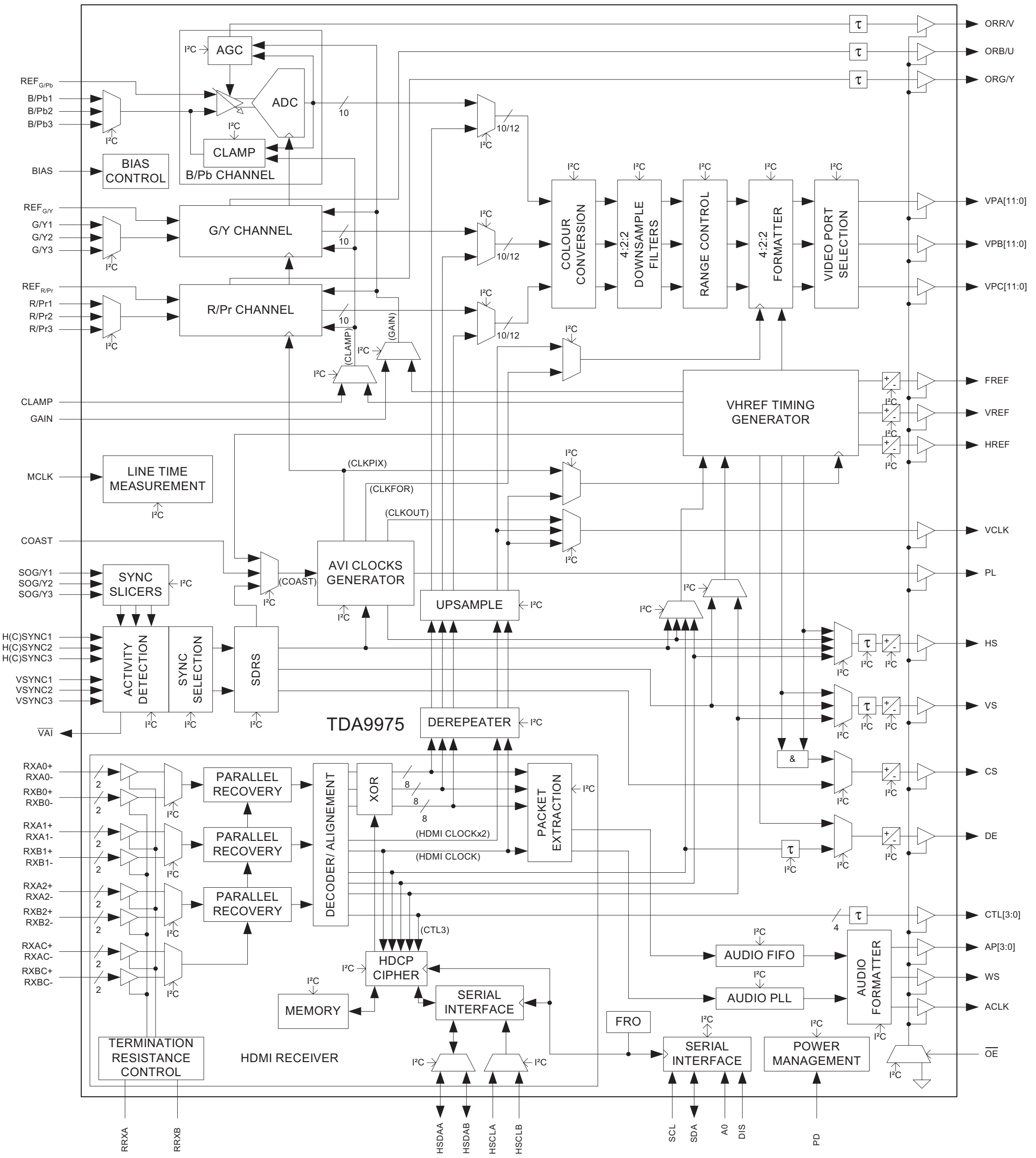
	1	2	3	4	5	6	7	8	9	10	11	12	13
A	NC	ADC_3.3	ADC_1.8	ADC_1.8	ADC_DGND	RXC+	DVI_GND	RX0+	RX1+	RX2+	DVI_GND	LBADC_N3	D_GND
B	BLUE-	BLUE+	ADC_3.3	ADC_DGND	DVI_GND	RXC-	DVI_GND	RX0-	RX1-	RX2-	REXT	LBADC_N2	D_GND
C	GREEN-	GREEN+	SOG	ADC_AGND	NC	DVI_3.3	DVI_GND	DVI_3.3	DVI_3.3	DVI_3.3	DVI_3.3	LBADC_N1	LBADC_33
D	RED-	RED+	ADC_3.3	ADC_AGND	NC	DVI_1.8	DVI_GND	DVI_1.8	DVI_1.8	DVI_1.8	DVI_GND	LBADC_RETURN	LBADC_GND
E	ADC_AGND	ADC_AGND	ADC_3.3	ADC_AGND									
F	NC	VDDD33_PLL	VSSA33_RPLL	VDDA33_RPLL									
G	VDDA33_FPLL	VSSD33_PLL	TCLK	XTAL									
H	VDDD33_SDDS	VSSA33_SDDS	VDDA33_SDDS	VSSA33_FPLL									
J	VDDD33_DDDS	VSSA33_DDDS	VDDA33_DDDS	VSSD33_SDDS									
K	RESETn	ACS_RSET_HD	NC	VSSD33_DDDS						CORE_1.8	CORE_1.8	D_GND	D_GND
L	OCM_INT2	OCM_INT1	AVSYNC	AHSYNC						D_GND	CORE_1.8	D_GND	D_GND
M	OCM_UDO	OCM_UDI	IR0	IR1						D_GND	D_GND	D_GND	D_GND
N	VGA_SDA	VGA_SCL	DVI_SDA	DVI_SCL						D_GND	D_GND	D_GND	D_GND
P	OCM_CS1n	OCM_CS2n	MSTR_SDA	MSTR_SCL						D_GND	D_GND	D_GND	D_GND
R	ROM_CSn	OCM_REn	OCM_WEn	EXTCLK						D_GND	D_GND	D_GND	D_GND
T	OCMADDR 17	OCMADDR 18	OCMADDR 19	OCM_CS0n						D_GND	CORE_1.8	D_GND	D_GND
U	OCMADDR 13	OCMADDR 14	OCMADDR 15	OCMADDR 16						CORE_1.8	CORE_1.8	D_GND	D_GND
V	OCMADDR 9	OCMADDR 10	OCMADDR 11	OCMADDR 12									
W	OCMADDR 6	OCMADDR 7	OCMADDR 8	IO_3.3									
Y	OCMADDR 3	OCMADDR 4	OCMADDR 5	IO_3.3									
AA	OCMADDR 0	OCMADDR 1	OCMADDR 2	IO_3.3									
AB	OCMDATA13	OCMDATA14	OCMDATA15	IO_3.3									
AC	OCMDATA10	OCMDATA11	OCMDATA12	IO_3.3	GPIO_G09_ B2 (DEGRN0)	IO_3.3	DCLK	IO_3.3	GPIO_G07_ B2 (DERED4)	IO_3.3	SHIELD[1] (DEGRN3)	LVDSB_3.3	LVDSB_GND
AD	OCMDATA9	OCMDATA6	OCMDATA3	OCMDATA0	GPIO_G09_ B3 (DEGRN1)	GPIO_G08_ B0 (DORED0)	DEN	GPIO_G08_ B5 (DOBLU1)	GPIO_G07_ B3 (DERED5)	GPIO_G07_ B6 (DERED8)	SHIELD[2] (DEGRN4)	LVDSB_3.3	LVDSB_3.3
AE	OCMDATA8	OCMDATA5	OCMDATA2	GPIO_G09_ B0 (DERED0)	GPIO_G09_ B4 (DEBLU0)	GPIO_G08_ B1 (DORED1)	GPIO_G08_ B3 (DOGRN1)	GPIO_G07_ B0 (DERED2)	GPIO_G07_ B4 (DERED6)	GPIO_G07_ B7 (DERED9)	SHIELD[3] (DEGRN5)	BC+ (DEGRN8)	SHIELD[4] (DEBLU2)
AF	OCMDATA7	OCMDATA4	OCMDATA1	GPIO_G09_ B1 (DERED1)	GPIO_G09_ B5 (DEBLU1)	GPIO_G08_ B2 (DOGRN0)	GPIO_G08_ B4 (DOBLU0)	GPIO_G07_ B1 (DERED3)	GPIO_G07_ B5 (DERED7)	SHIELD[0] (DEGRN2)	B3+ (DEGRN6)	B3- (DEGRN7)	BC- (DEGRN9)

E_14490_099.eps
241204

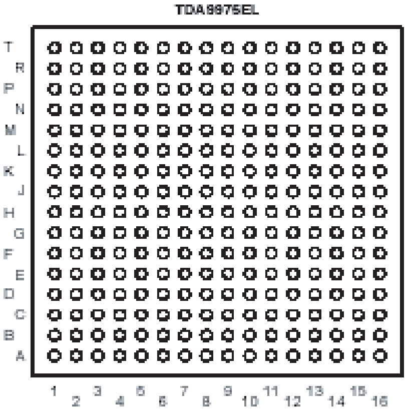
Figure 9-5 Internal block diagram and pin configuration

9.5.4 Diagram B12, Type TDA9975EL (IC7D03, HDMI Panellink), Reserved

Block Diagram


REFG/Pb
B/Pb1
B/Pb2
B/Pb3
BIAS
REFG/Y
G/Y1
G/Y2
G/Y3
REFR/Pr
R/Pr1
R/Pr2
R/Pr3
CLAMP
GAIN
MCLK
COAST
SOG/Y1
SOG/Y2
SOG/Y3
H(C)SYNC1
H(C)SYNC2
H(C)SYNC3
VSYNC1
VSYNC2
VSYNC3
VAI
RXA0+
RXA0-
RXB0+
RXB0-
RXA1+
RXA1-
RXB1+
RXB1-
RXA2+
RXA2-
RXB2+
RXB2-
RXAC+
RXAC-
RXBC+
RXBC-
AGC
ADC
CLAMP
BIAS CONTROL
B/Pb CHANNEL
G/Y CHANNEL
R/Pr CHANNEL
10
10/12
(CLAMP)
(GAIN)
COLOUR CONVERSION
4:2:2 DOWNSAMPLE FILTERS
RANGE CONTROL
4:2:2 FORMATTER
VIDEO PORT SELECTION
VHREF TIMING GENERATOR
LINE TIME MEASUREMENT
(CLKPIX)
(CLKFOR)
(CLKOUT)
(COAST)
SYNC SLICERS
AVI CLOCKS GENERATOR
UPSAMPLE
ACTIVITY DETECTION
SYNC SELECTION
SDRS
TDA9975
DEREPEATER
I²C
τ
&
PARALLEL RECOVERY
DECODER/ ALIGNEMENT
XOR
8
PACKET EXTRACTION
(HDMI CLOCKx2)
(HDMI CLOCK)
(CTL3)
4
HDCP CIPHER
MEMORY
SERIAL INTERFACE
TERMINATION RESISTANCE CONTROL
HDMI RECEIVER
AUDIO FIFO
AUDIO PLL
AUDIO FORMATTER
FRO
SERIAL INTERFACE
POWER MANAGEMENT
ORR/V
ORB/U
ORG/Y
VPA[11:0]
VPB[11:0]
VPC[11:0]
FREF
VREF
HREF
VCLK
PL
HS
VS
CS
DE
CTL[3:0]
AP[3:0]
WS
ACLK
OE
RRXA
RRXB
HSDAA
HSDAB
HSCLA
HSCLB
SCL
SDA
A0
DIS
PD

Pin Configuration


TDA9975EL
T
R
P
N
M
L
K
J
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

F_15400_135.eps
240505

Figure 9-6 Internal block diagram and pin configuration

10. Spare Parts List (Only for: 26PF5321/10 - /12, 32PF5321/10 - /12)

Set Level

Various

1099⚠	9322 221 01682	LCD LC260WX2-SL01
1099⚠	9322 230 03682	LCD LC320W01-SL06
1112	3139 267 24041	Assy LED/IR [J]
1114	3139 188 89031	Assy Control Board [E]
1116	3139 188 89021	Assy Side I/O [D]
1174	3139 267 26731	Assy Audio Amp [C]
1188	3122 137 23171	Power Supply Unit 32"
1188⚠	3122 137 23191	Power Supply Unit 26"
8002	3104 311 08061	Cable 2p3/120/Inlet
8520	3139 131 06081	Cable Inverter
8520	3139 131 07061	Cable 12p 14p/820 280/
8P06	3139 131 05471	Cable 30p/280/30p
8P06	3139 131 06001	Cable 30p/140/30p
8870	3104 311 09151	Cable 6p/400/6p
8903	3104 311 09141	Cable 4p/560
8903	3104 311 10071	Cable 4P/560 680/

—∿—

5213	2422 264 00537	Loudsp. 4Ω 15W FR
5213	2422 264 00539	Loudsp. 8Ω 15W

Software (See Product Purvey)

0801	3139 127 07041	SW Hercules
0811	3139 127 07031	SW Genesis
0821	3139 127 07001	SW HDMI-1 DDC
0822	3139 127 06991	SW HDMI-2 DDC

Small Signal Board

Various

1151	2422 025 18749	Connector 3p m
1152	3139 147 19801	Tuner UV1318S/A IH -3
1154	4822 242 81436	Filter OFWK3953M
1156	2422 549 44341	Filter 38.9MHz
1177	2422 025 18749	Connector 3p m
1202	2422 543 01414	Xtal 24.576MHz
1801	2422 543 01133	Xtal 14.32MHz 20pF
1F01	2422 026 05647	Cinch 2P f
1F02	2422 033 00505	Socket HDMI 19p f
1F03	2422 033 00505	Socket HDMI 19p f
1G01	2422 025 19508	3 x Cinch/SCART
1G02	2422 025 19509	3 x Cinch/SCART
1J02	2422 025 10772	Connector 12p m
1J03	2422 025 10768	Connector 3p m
1J04	2422 025 10769	Connector 9p m
1K00	2422 025 08149	Connector 6p m
1K01	2422 025 10772	Connector 12p m
1K02	2422 025 10768	Connector 3p m
1L35	2422 543 01133	Xtal 14.32MHz 20pF
1N11	2422 549 45325	Bead 67Ω at 100MHz
1N12	2422 549 45325	Bead 67Ω at 100MHz
1N13	2422 549 45325	Bead 67Ω at 100MHz
1N14	2422 549 45325	Bead 67Ω at 100MHz
1N15	2422 549 45325	Bead 67Ω at 100MHz
1N16	2422 025 18772	Connector 30p m
8J02	3139 131 05901	Cable 12p/280/12p
8J03	3104 311 10051	Cable 3p/100/3p Wh
8J04	3104 311 09251	Cable 9p/140/9p
8K01	3139 131 05901	Cable 12p/280/12p

⊣⊢

2151	4822 124 12095	100µF 20% 16V
2152	5322 126 11583	10nF 10% 50V 0603
2153	5322 126 11583	10nF 10% 50V 0603
2154	4822 122 33761	22pF 5% 50V
2155	4822 122 33761	22pF 5% 50V
2156	5322 126 11583	10nF 10% 50V 0603
2157	3198 024 44730	47nF 50V 0603
2158	3198 030 82280	2.2µF 20% 50V
2159	5322 124 41945	22µF 20% 35V
2160	4822 124 12095	100µF 20% 16V
2203	4822 124 23002	10µF 16V
2206	2020 552 00183	2.2µF 10% 6.3V 0603
2207	2020 552 96718	220nF 10% 6.3V 0402
2208	4822 124 12084	1µF 20% 50V
2210	2020 552 96718	220nF 10% 6.3V 0402
2211	2020 552 96628	10nF 10% 16V 0402
2212	3198 035 71040	100nF 10% 16V 0402
2214	3198 035 03310	330pF 5% 50V 0402
2216	3198 035 03310	330pF 5% 50V 0402
2218	3198 035 71040	100nF 10% 16V 0402
2221	4822 124 12095	100µF 20% 16V
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 552 96618	1nF 10% 50V 0402
2226	3198 035 03320	3.3nF 5% 50V 0402
2227	2020 552 96618	1nF 10% 50V 0402
2228	3198 035 71040	100nF 10% 16V 0402
2230	3198 035 71040	100nF 10% 16V 0402
2231	2020 552 96718	220nF 10% 6.3V 0402
2232	3198 035 71040	100nF 10% 16V 0402
2233	4822 124 23002	10µF 16V
2234	2020 552 96718	220nF 10% 6.3V 0402
2235	2020 552 96718	220nF 10% 6.3V 0402
2236	4822 126 14076	220nF +80/-20% 25V
2237	2020 552 96718	220nF 10% 6.3V 0402
2238	2020 552 96718	220nF 10% 6.3V 0402
2239	3198 035 71040	100nF 10% 16V 0402
2240	2020 552 96718	220nF 10% 6.3V 0402
2241	2020 552 96718	220nF 10% 6.3V 0402
2242	3198 035 71040	100nF 10% 16V 0402
2243	4822 124 23002	10µF 16V
2244	3198 035 71040	100nF 10% 16V 0402
2245	3198 035 71040	100nF 10% 16V 0402
2246	3198 035 71040	100nF 10% 16V 0402
2247	3198 030 82280	2.2µF 20% 50V
2250	2020 552 96618	1nF 10% 50V 0402
2251	2020 552 96656	10µF 20% 25V 1210
2252	3198 035 71040	100nF 10% 16V 0402
2253	3198 035 71040	100nF 10% 16V 0402
2254	3198 035 71040	100nF 10% 16V 0402
2255	3198 035 71040	100nF 10% 16V 0402
2256	4822 124 23002	10µF 16V
2257	3198 035 71040	100nF 10% 16V 0402
2258	2020 552 96637	10µF 10% 6.3V 0805
2259	3198 035 71040	100nF 10% 16V 0402
2260	2020 552 96637	10µF 10% 6.3V 0805
2262	4822 124 23002	10µF 16V
2263	3198 035 26820	6.8nF 10% 16V 0402
2264	3198 017 44740	470nF 10V 0603
2265	3198 017 41050	1µF 10V 0603
2266	3198 035 71040	100nF 10% 16V 0402
2267	2020 552 96718	220nF 10% 6.3V 0402
2268	3198 030 82280	2.2µF 20% 50V
2269	2020 012 00003	470µF 16V 20% SMD
2270	3198 035 71040	100nF 10% 16V 0402
2271	4822 124 12095	100µF 20% 16V
2272	3198 035 71040	100nF 10% 16V 0402
2273	2020 552 96718	220nF 10% 6.3V 0402
2274	3198 017 31540	150nF 10V 0603
2277	3198 035 71040	100nF 10% 16V 0402
2280	2020 552 00027	4.7µF 2% 6.3V 0603
2281	2020 552 00027	4.7µF 2% 6.3V 0603
2285	3198 035 71040	100nF 10% 16V 0402
2286	3198 035 71040	100nF 10% 16V 0402
2289	4822 051 30151	150Ω 5% 0.062W
2290	2222 240 59872	4.7µF 5% 10V 0805
2291	3198 035 71040	100nF 10% 16V 0402
2449	3198 035 71040	100nF 10% 16V 0402
2603	2020 552 96834	1µF 20% 6.3V 0402
2604	3198 035 04710	470pF 50V 0402
2605	2020 552 96834	1µF 20% 6.3V 0402
2608	2020 552 96834	1µF 20% 6.3V 0402
2609	3198 035 04710	470pF 50V 0402
2610	2020 552 96834	1µF 20% 6.3V 0402
2611	4822 124 12095	100µF 20% 16V
2613	3198 017 41050	1µF 10V 0603
2614	3198 035 71040	100nF 10% 16V 0402
2615	2020 012 00003	470µF 16V 20% SMD
2616	2020 552 00183	2.2µF 10% 6.3V 0603
2617	2020 552 00183	2.2µF 10% 6.3V 0603
2618	2020 012 00003	470µF 16V 20% SMD
2619	4822 124 11131	47µF 6.3V
2701	2238 869 15101	100pF 5% 50V 0402
2704	4822 124 23002	10µF 16V
2716	2020 012 00028	470µF 20% 16V
2730	2020 552 00231	22µF 20% 16V X5R
2731	2020 012 00003	470µF 16V 20% SMD
2733	3198 035 02210	220pF 5% 50V 0402
2734	2238 787 16641	22nF 10% 16V 0402
2735	3198 035 06810	680pF 5% 50V 0402
2736	2022 031 00308	22µF 20% 35V
2737	2020 012 00003	470µF 16V 20% SMD
2738	4822 124 80151	47µF 16V
2739	4822 124 80151	47µF 16V
2751	2222 240 59872	4.7µF 5% 10V 0805
2752	4822 124 80151	47µF 16V
2758	2020 012 00003	470µF 16V 20% SMD
2762	5322 124 41945	22µF 20% 35V
2800	2020 021 91557	100µF 20% 16V
2801	3198 035 71040	100nF 10% 16V 0402
2802	3198 035 71040	100nF 10% 16V 0402
2803	3198 035 71040	100nF 10% 16V 0402
2804	3198 035 71040	100nF 10% 16V 0402
2805	3198 035 71040	100nF 10% 16V 0402
2806	3198 035 71040	100nF 10% 16V 0402
2807	3198 035 71040	100nF 10% 16V 0402
2808	3198 035 71040	100nF 10% 16V 0402
2809	3198 035 71040	100nF 10% 16V 0402
2810	3198 035 71040	100nF 10% 16V 0402
2811	3198 035 71040	100nF 10% 16V 0402
2812	3198 035 71040	100nF 10% 16V 0402
2813	3198 035 71040	100nF 10% 16V 0402
2814	3198 035 71040	100nF 10% 16V 0402
2815	5322 124 41945	22µF 20% 35V
2816	3198 035 71040	100nF 10% 16V 0402
2817	3198 035 71040	100nF 10% 16V 0402
2818	3198 035 71040	100nF 10% 16V 0402
2819	3198 035 71040	100nF 10% 16V 0402
2820	3198 035 71040	100nF 10% 16V 0402
2821	3198 035 71040	100nF 10% 16V 0402
2822	3198 035 71040	100nF 10% 16V 0402
2823	4822 126 14519	22pF 5% 50V 0402
2824	4822 126 14519	22pF 5% 50V 0402
2900	3198 035 71040	100nF 10% 16V 0402
2901	2020 552 96618	1nF 10% 50V 0402
2902	2020 021 91557	100µF 20% 16V
2903	3198 035 71040	100nF 10% 16V 0402
2904	4822 124 80151	47µF 16V
2905	2020 021 91557	100µF 20% 16V
2906	3198 035 71040	100nF 10% 16V 0402
2907	3198 035 71040	100nF 10% 16V 0402
2908	3198 035 71040	100nF 10% 16V 0402
2909	3198 035 71040	100nF 10% 16V 0402
2910	3198 035 71040	100nF 10% 16V 0402
2911	3198 035 71040	100nF 10% 16V 0402
2912	3198 035 71040	100nF 10% 16V 0402
2913	3198 035 71040	100nF 10% 16V 0402
2914	3198 035 71040	100nF 10% 16V 0402
2915	3198 035 71040	100nF 10% 16V 0402
2916	3198 035 71040	100nF 10% 16V 0402
2917	2020 021 91557	100µF 20% 16V
2918	3198 035 71040	100nF 10% 16V 0402
2919	3198 035 71040	100nF 10% 16V 0402
2920	3198 035 71040	100nF 10% 16V 0402
2921	3198 035 71040	100nF 10% 16V 0402
2922	3198 035 71040	100nF 10% 16V 0402
2923	3198 035 71040	100nF 10% 16V 0402
2924	3198 035 71040	100nF 10% 16V 0402
2925	3198 035 71040	100nF 10% 16V 0402
2926	3198 035 71040	100nF 10% 16V 0402
2927	3198 035 71040	100nF 10% 16V 0402
2928	3198 035 71040	100nF 10% 16V 0402
2929	3198 035 71040	100nF 10% 16V 0402
2930	3198 035 71040	100nF 10% 16V 0402
2931	3198 035 71040	100nF 10% 16V 0402
2932	3198 035 71040	100nF 10% 16V 0402
2933	3198 035 71040	100nF 10% 16V 0402
2934	4822 124 80151	47µF 16V
2935	3198 035 71040	100nF 10% 16V 0402
2936	3198 035 71040	100nF 10% 16V 0402
2937	3198 035 71040	100nF 10% 16V 0402
2938	3198 035 71040	100nF 10% 16V 0402
2939	3198 035 71040	100nF 10% 16V 0402
2940	4822 124 80151	47µF 16V
2941	3198 035 71040	100nF 10% 16V 0402
2942	3198 035 71040	100nF 10% 16V 0402
2945	5322 124 41945	22µF 20% 35V
2946	3198 035 71040	100nF 10% 16V 0402
2947	3198 035 71040	100nF 10% 16V 0402
2948	3198 035 71040	100nF 10% 16V 0402
2949	3198 035 71040	100nF 10% 16V 0402
2950	5322 124 41945	22µF 20% 35V
2951	3198 035 71040	100nF 10% 16V 0402
2952	3198 035 71040	100nF 10% 16V 0402
2953	3198 035 71040	100nF 10% 16V 0402
2954	3198 035 71040	100nF 10% 16V 0402
2955	5322 124 41945	22µF 20% 35V
2956	3198 035 71040	100nF 10% 16V 0402
2957	3198 035 71040	100nF 10% 16V 0402
2958	3198 035 71040	100nF 10% 16V 0402
2959	3198 035 71040	100nF 10% 16V 0402
2960	2020 021 91557	100µF 20% 16V
2B01	4822 124 80151	47µF 16V
2B02	4822 124 11131	47µF 6.3V
2B03	3198 035 71040	100nF 10% 16V 0402

2B04	3198 035 71040	100nF 10% 16V 0402
2B05	3198 035 71040	100nF 10% 16V 0402
2B06	3198 035 71040	100nF 10% 16V 0402
2B07	3198 035 71040	100nF 10% 16V 0402
2B08	3198 035 71040	100nF 10% 16V 0402
2B09	3198 035 71040	100nF 10% 16V 0402
2B10	3198 035 71040	100nF 10% 16V 0402
2B11	3198 035 71040	100nF 10% 16V 0402
2B12	3198 035 71040	100nF 10% 16V 0402
2B13	3198 035 71040	100nF 10% 16V 0402
2B14	3198 035 71040	100nF 10% 16V 0402
2B15	3198 035 71040	100nF 10% 16V 0402
2B16	3198 035 71040	100nF 10% 16V 0402
2B17	3198 035 71040	100nF 10% 16V 0402
2B18	5322 124 41945	22µF 20% 35V
2C00	3198 035 71040	100nF 10% 16V 0402
2C01	4822 124 23002	10µF 16V
2C02	3198 035 71040	100nF 10% 16V 0402
2C03	3198 035 71040	100nF 10% 16V 0402
2C04	2020 552 96628	10nF 10% 16V 0402
2C05	2020 552 96628	10nF 10% 16V 0402
2D00	3198 035 71040	100nF 10% 16V 0402
2D01	3198 035 71040	100nF 10% 16V 0402
2D02	4822 124 23237	22µF 6.3V
2D08	2020 552 96618	1nF 10% 50V 0402
2D09	2020 552 96618	1nF 10% 50V 0402
2D10	2020 552 96618	1nF 10% 50V 0402
2D11	2020 552 96618	1nF 10% 50V 0402
2D12	2020 552 96618	1nF 10% 50V 0402
2D13	2020 552 96618	1nF 10% 50V 0402
2D14	2020 552 96618	1nF 10% 50V 0402
2D15	2020 552 96618	1nF 10% 50V 0402
2D16	2020 552 96618	1nF 10% 50V 0402
2D17	2020 552 96618	1nF 10% 50V 0402
2D18	2020 552 96618	1nF 10% 50V 0402
2D21	2020 552 96618	1nF 10% 50V 0402
2D22	3198 035 71040	100nF 10% 16V 0402
2D23	2020 552 96618	1nF 10% 50V 0402
2D24	2020 552 96618	1nF 10% 50V 0402
2D25	3198 035 71040	100nF 10% 16V 0402
2D29	2020 552 96618	1nF 10% 50V 0402
2D30	2020 552 96618	1nF 10% 50V 0402
2D31	2020 552 96618	1nF 10% 50V 0402
2D32	2020 552 96618	1nF 10% 50V 0402
2D34	2020 552 96618	1nF 10% 50V 0402
2D35	2020 552 96618	1nF 10% 50V 0402
2D36	2020 552 96618	1nF 10% 50V 0402
2D37	2020 552 96618	1nF 10% 50V 0402
2D38	2020 552 96618	1nF 10% 50V 0402
2D39	2020 552 96618	1nF 10% 50V 0402
2D42	4822 124 23237	22µF 6.3V
2D43	4822 124 23237	22µF 6.3V
2D44	4822 124 23237	22µF 6.3V
2D45	3198 035 71040	100nF 10% 16V 0402
2D46	4822 124 11131	47µF 6.3V
2D47	4822 124 23237	22µF 6.3V
2D48	4822 124 23237	22µF 6.3V
2D49	2020 552 96618	1nF 10% 50V 0402
2D50	4822 124 11131	47µF 6.3V
2D51	3198 035 71040	100nF 10% 16V 0402
2D52	4822 124 11131	47µF 6.3V
2D53	3198 035 71040	100nF 10% 16V 0402
2D54	4822 124 11131	47µF 6.3V
2D55	3198 035 71040	100nF 10% 16V 0402
2D56	4822 124 23002	10µF 16V
2D57	4822 124 23002	10µF 16V
2D58	2020 552 96628	10nF 10% 16V 0402
2D59	2020 552 96628	10nF 10% 16V 0402
2E00	2020 552 00005	4.7µF 10% 6.3V 0603
2E01	2020 552 00005	4.7µF 10% 6.3V 0603
2E02	2020 552 00005	4.7µF 10% 6.3V 0603
2E03	3198 035 71040	100nF 10% 16V 0402
2E04	2020 552 00027	4.7µF 2% 6.3V 0603
2E05	2020 552 00027	4.7µF 2% 6.3V 0603
2E06	2020 552 00027	4.7µF 2% 6.3V 0603
2E07	4822 126 14324	33pF 5% 50V 0402
2E08	2020 552 00005	4.7µF 10% 6.3V 0603
2E09	4822 126 14324	33pF 5% 50V 0402
2E10	2020 552 00005	4.7µF 10% 6.3V 0603
2E11	4822 126 14324	33pF 5% 50V 0402
2E12	2020 552 00005	4.7µF 10% 6.3V 0603
2E13	3198 017 41050	1µF 10V 0603
2E14	4822 126 14324	33pF 5% 50V 0402
2E16	3198 035 71040	100nF 10% 16V 0402
2E17	3198 035 71040	100nF 10% 16V 0402
2E18	3198 035 71040	100nF 10% 16V 0402
2E19	3198 035 71040	100nF 10% 16V 0402
2E20	4822 124 11131	47µF 6.3V
2E24	3198 035 71040	100nF 10% 16V 0402
2E25	3198 035 71040	100nF 10% 16V 0402
2E26	3198 035 71040	100nF 10% 16V 0402
2E27	3198 035 71040	100nF 10% 16V 0402
2E28	3198 035 71040	100nF 10% 16V 0402
2E29	3198 035 71040	100nF 10% 16V 0402
2E30	3198 035 71040	100nF 10% 16V 0402
2E31	3198 035 71040	100nF 10% 16V 0402
2E32	3198 035 71040	100nF 10% 16V 0402
2E33	2020 552 00005	4.7µF 10% 6.3V 0603
2E34	2020 552 00005	4.7µF 10% 6.3V 0603
2E35	2020 552 00005	4.7µF 10% 6.3V 0603
2E36	3198 035 71040	100nF 10% 16V 0402
2F01	4822 124 23002	10µF 16V
2F02	2238 586 59812	100nF 20% 50V 0603
2F03	2020 552 00027	4.7µF 2% 6.3V 0603
2F04	2020 552 00027	4.7µF 2% 6.3V 0603
2F13	4822 126 14508	180pF 5% 50V 0603
2F14	4822 126 14508	180pF 5% 50V 0603
2F15	2020 552 00183	2.2µF 10% 6.3V 0603
2F16	2020 552 00183	2.2µF 10% 6.3V 0603
2G03	4822 126 14241	330pF 0603 50V
2G04	4822 126 14241	330pF 0603 50V
2G05	4822 124 23002	10µF 16V
2G06	4822 124 23002	10µF 16V
2G09	4822 126 14508	180pF 5% 50V 0603
2G10	4822 126 14508	180pF 5% 50V 0603
2G11	2020 552 00183	2.2µF 10% 6.3V 0603
2G12	2020 552 00183	2.2µF 10% 6.3V 0603
2G16	4822 126 14508	180pF 5% 50V 0603
2G17	4822 126 14508	180pF 5% 50V 0603
2G20	4822 126 14241	330pF 0603 50V
2G21	4822 126 14241	330pF 0603 50V
2G22	4822 124 23002	10µF 16V
2G23	4822 124 23002	10µF 16V
2G24	2020 552 00183	2.2µF 10% 6.3V 0603
2G25	2020 552 00183	2.2µF 10% 6.3V 0603
2G28	4822 126 14508	180pF 5% 50V 0603
2G43	2020 552 00027	4.7µF 2% 6.3V 0603
2G47	3198 035 71040	100nF 10% 16V 0402
2G54	2020 552 00183	2.2µF 10% 6.3V 0603
2G55	2020 552 00027	4.7µF 2% 6.3V 0603
2G56	2020 552 00027	4.7µF 2% 6.3V 0603
2G57	2020 552 00027	4.7µF 2% 6.3V 0603
2G58	3198 035 71040	100nF 10% 16V 0402
2G60	2020 552 00183	2.2µF 10% 6.3V 0603
2G61	3198 017 42240	220nF 16V Y5V 0603
2G68	4822 126 14508	180pF 5% 50V 0603
2G69	4822 124 23002	10µF 16V
2G70	2020 552 96637	10µF 10% 6.3V 0805
2G71	2020 552 96637	10µF 10% 6.3V 0805
2J02	2020 552 96618	1nF 10% 50V 0402
2J03	2020 552 96618	1nF 10% 50V 0402
2J17	2020 552 96618	1nF 10% 50V 0402
2J18	2238 869 15101	100pF 5% 50V 0402
2J19	2238 869 15101	100pF 5% 50V 0402
2J21	2238 869 15101	100pF 5% 50V 0402
2J22	2238 869 15101	100pF 5% 50V 0402
2J23	2238 869 15101	100pF 5% 50V 0402
2J26	2238 869 15101	100pF 5% 50V 0402
2J27	2238 869 15101	100pF 5% 50V 0402
2J28	2238 869 15101	100pF 5% 50V 0402
2J29	2238 869 15101	100pF 5% 50V 0402
2J30	2020 552 96618	1nF 10% 50V 0402
2J35	2020 552 96618	1nF 10% 50V 0402
2J36	2020 552 96618	1nF 10% 50V 0402
2K00	2020 552 96618	1nF 10% 50V 0402
2K01	2020 552 96618	1nF 10% 50V 0402
2K02	2238 869 15109	10pF 5% 50V 0402
2K03	2238 869 15109	10pF 5% 50V 0402
2K04	2238 869 15109	10pF 5% 50V 0402
2K05	2238 869 15109	10pF 5% 50V 0402
2K06	2238 869 15101	100pF 5% 50V 0402
2K07	2238 869 15101	100pF 5% 50V 0402
2K08	2020 552 00183	2.2µF 10% 6.3V 0603
2K10	2238 869 15101	100pF 5% 50V 0402
2K11	2238 869 15101	100pF 5% 50V 0402
2K12	2020 552 00183	2.2µF 10% 6.3V 0603
2K13	2238 869 15101	100pF 5% 50V 0402
2K14	2238 869 15101	100pF 5% 50V 0402
2K15	2238 869 15101	100pF 5% 50V 0402
2K16	2238 869 15101	100pF 5% 50V 0402
2K17	2238 869 15101	100pF 5% 50V 0402
2K18	2238 869 15101	100pF 5% 50V 0402
2K19	2020 552 96618	1nF 10% 50V 0402
2K20	2020 552 96618	1nF 10% 50V 0402
2K21	2238 869 15101	100pF 5% 50V 0402
2K22	2238 869 15101	100pF 5% 50V 0402
2K23	2238 869 15101	100pF 5% 50V 0402
2K24	2238 869 15101	100pF 5% 50V 0402
2K25	2238 869 15101	100pF 5% 50V 0402
2K26	2238 869 15101	100pF 5% 50V 0402
2K27	2238 869 15101	100pF 5% 50V 0402
2K28	2238 869 15101	100pF 5% 50V 0402
2L01	4822 124 23002	10µF 16V
2L02	4822 124 23002	10µF 16V
2L03	2020 552 96834	1µF 20% 6.3V 0402
2L04	2020 552 96834	1µF 20% 6.3V 0402
2L05	2020 552 96834	1µF 20% 6.3V 0402
2L06	2020 552 96834	1µF 20% 6.3V 0402
2L07	2020 552 96834	1µF 20% 6.3V 0402
2L08	2020 552 96834	1µF 20% 6.3V 0402
2L09	2020 552 96834	1µF 20% 6.3V 0402
2L10	2020 552 96668	560pF 10% 50V 0402
2L11	4822 124 23002	10µF 16V
2L12	2020 552 96834	1µF 20% 6.3V 0402
2L13	2020 552 96834	1µF 20% 6.3V 0402
2L14	2020 552 96834	1µF 20% 6.3V 0402
2L15	2020 552 96834	1µF 20% 6.3V 0402
2L16	2020 552 96834	1µF 20% 6.3V 0402
2L17	2020 552 96637	10µF 10% 6.3V 0805
2L18	2020 552 96834	1µF 20% 6.3V 0402
2L19	2020 552 96637	10µF 10% 6.3V 0805
2L20	2020 552 96834	1µF 20% 6.3V 0402
2L21	4822 124 12095	100µF 20% 16V
2L22	2020 552 96834	1µF 20% 6.3V 0402
2L23	2020 552 96834	1µF 20% 6.3V 0402
2L24	2020 552 96834	1µF 20% 6.3V 0402
2L25	2020 552 96834	1µF 20% 6.3V 0402
2L30	4822 124 12095	100µF 20% 16V
2L31	3198 035 71040	100nF 10% 16V 0402
2L32	2020 552 96834	1µF 20% 6.3V 0402
2L33	3198 035 71040	100nF 10% 16V 0402
2L34	4822 124 12095	100µF 20% 16V
2L35	4822 126 14519	22pF 5% 50V 0402
2L36	4822 126 14519	22pF 5% 50V 0402
2L37	3198 035 71040	100nF 10% 16V 0402
2L51	3198 035 02210	220pF 5% 50V 0402
2L52	3198 035 04710	470pF 50V 0402
2L53	2020 552 96618	1nF 10% 50V 0402
2L61	3198 035 02210	220pF 5% 50V 0402
2L62	3198 035 04710	470pF 50V 0402
2L63	2020 552 96618	1nF 10% 50V 0402
2L71	2020 552 00005	4.7µF 10% 6.3V 0603
2L72	3198 035 71040	100nF 10% 16V 0402
2L73	2020 552 96637	10µF 10% 6.3V 0805
2L74	2020 552 00231	22µF 20% 16V 1210
2L75	2020 552 00231	22µF 20% 16V 1210
2L92	3198 035 74730	47nF 5% 16V 0402
2L93	3198 035 74730	47nF 5% 16V 0402
2L94	2020 552 96618	1nF 10% 50V 0402
2L95	3198 035 74730	47nF 5% 16V 0402
2L96	3198 035 74730	47nF 5% 16V 0402
2L97	3198 035 74730	47nF 5% 16V 0402
2L98	3198 035 74730	47nF 5% 16V 0402
2M00	3198 035 71040	100nF 10% 16V 0402
2M01	3198 035 71040	100nF 10% 16V 0402
2M02	3198 035 71040	100nF 10% 16V 0402
2M03	3198 035 71040	100nF 10% 16V 0402
2M04	3198 035 71040	100nF 10% 16V 0402
2M05	3198 035 71040	100nF 10% 16V 0402
2M06	3198 035 71040	100nF 10% 16V 0402
2M07	3198 035 71040	100nF 10% 16V 0402
2M08	3198 035 71040	100nF 10% 16V 0402
2M09	3198 035 71040	100nF 10% 16V 0402
2M10	3198 035 71040	100nF 10% 16V 0402
2M11	3198 035 71040	100nF 10% 16V 0402
2M12	3198 035 71040	100nF 10% 16V 0402
2M13	3198 035 71040	100nF 10% 16V 0402
2M14	3198 035 71040	100nF 10% 16V 0402
2M15	3198 035 71040	100nF 10% 16V 0402
2M16	3198 035 71040	100nF 10% 16V 0402
2M17	3198 035 71040	100nF 10% 16V 0402
2M18	3198 035 71040	100nF 10% 16V 0402
2M19	3198 035 71040	100nF 10% 16V 0402
2M20	3198 035 71040	100nF 10% 16V 0402
2M21	2020 552 00183	2.2µF 10% 6.3V 0603
2M22	3198 035 71040	100nF 10% 16V 0402
2M23	5322 124 41945	22µF 20% 35V
2M24	3198 035 71040	100nF 10% 16V 0402
2M25	3198 035 71040	100nF 10% 16V 0402
2M26	3198 035 71040	100nF 10% 16V 0402
2M27	3198 035 71040	100nF 10% 16V 0402
2M28	3198 035 71040	100nF 10% 16V 0402
2M29	3198 035 71040	100nF 10% 16V 0402
2M30	3198 035 71040	100nF 10% 16V 0402
2M31	5322 124 41945	22µF 20% 35V
2M32	5322 124 41945	22µF 20% 35V
2M56	5322 124 41945	22µF 20% 35V
2M65	3198 035 71040	100nF 10% 16V 0402
2M66	4822 124 12095	100µF 20% 16V
2M67	3198 035 71040	100nF 10% 16V 0402
2M68	4822 124 12095	100µF 20% 16V
2N80	2238 869 15109	10pF 5% 50V 0402
2N81	2238 869 15109	10pF 5% 50V 0402
2N82	2238 869 15109	10pF 5% 50V 0402
2N83	2238 869 15109	10pF 5% 50V 0402
2N84	2238 869 15109	10pF 5% 50V 0402
2N85	2238 869 15109	10pF 5% 50V 0402
2N86	2238 869 15109	10pF 5% 50V 0402
2N87	2238 869 15109	10pF 5% 50V 0402
2N88	2238 869 15109	10pF 5% 50V 0402
2N89	2238 869 15109	10pF 5% 50V 0402

3151	4822 117 13545	100Ω 1% 0402
3152	4822 117 13545	100Ω 1% 0402
3153	4822 117 13606	10kΩ 5% 0.01W 0402
3154	4822 051 30103	10kΩ 5% 0.062W
3155	4822 117 13548	1kΩ 5% 0402
3157	4822 051 30682	6.8Ω 5% 0.062W
3158	4822 051 30222	2.2kΩ 5% 0.062W
3159	4822 051 30222	2.2kΩ 5% 0.062W
3161	4822 051 30223	22kΩ 5% 0.062W
3162	4822 051 30183	18kΩ 5% 0.062W
3163	4822 051 30101	100Ω 5% 0.062W
3164	4822 051 30101	100Ω 5% 0.062W
3170	4822 117 13606	10kΩ 5% 0.01W 0402
3171	4822 117 13606	10kΩ 5% 0.01W 0402
3172	4822 117 13545	100Ω 1% 0402
3173	4822 117 13545	100Ω 1% 0402
3207	3198 031 06810	680Ω 5% 0.01W 0402
3208	4822 117 13545	100Ω 1% 0402
3209	4822 117 13545	100Ω 1% 0402
3210	4822 117 13545	100Ω 1% 0402
3211	4822 117 13545	100Ω 1% 0402
3212	4822 117 13545	100Ω 1% 0402
3213	4822 117 13545	100Ω 1% 0402
3214	3198 031 06810	680Ω 5% 0.01W 0402
3215	3198 031 02710	270Ω 5% 0.1W 0402
3216	4822 117 13597	330Ω 5% 0.01W 0402
3217	4822 117 13548	1kΩ 5% 0402
3218	4822 117 11297	100kΩ 5% 0.1W
3219	4822 117 13545	100Ω 1% 0402
3220	3198 031 04730	47Ω 5% 0402
3222	4822 117 13545	100Ω 1% 0402
3223	3198 031 01090	10Ω 5% 0.01W 0402
3224	3198 031 04720	4.7kΩ 5% 0402
3225	3198 031 04720	4.7kΩ 5% 0402
3226	4822 117 13545	100Ω 1% 0402
3227	4822 117 13545	100Ω 1% 0402
3229	3198 031 04720	4.7kΩ 5% 0402
3230	4822 117 13606	10kΩ 5% 0.01W 0402
3231	4822 117 13602	2.2kΩ 5% 0.01W 0402
3232	3198 031 03320	3.3kΩ 5% 0402
3233	3198 031 03320	3.3kΩ 5% 0402
3234	3198 031 04720	4.7kΩ 5% 0402
3235	3198 031 04720	4.7kΩ 5% 0402
3236	3198 031 04720	4.7kΩ 5% 0402
3238	4822 117 13545	100Ω 1% 0402
3239	4822 117 13545	100Ω 1% 0402
3240	2322 704 61002	1kΩ 1%
3241	4822 117 13545	100Ω 1% 0402
3242	4822 117 13606	10kΩ 5% 0.01W 0402
3243	3198 031 04720	4.7kΩ 5% 0402
3245	3198 031 02240	220kΩ 5% 0.1W 0402
3246	3198 031 04720	4.7kΩ 5% 0402
3247	4822 117 13545	100Ω 1% 0402
3248	4822 117 13545	100Ω 1% 0402
3249	3198 031 04720	4.7kΩ 5% 0402
3250	4822 117 13545	100Ω 1% 0402
3251	4822 117 13545	100Ω 1% 0402
3252	4822 117 13545	100Ω 1% 0402
3253	4822 117 13545	100Ω 1% 0402
3255	4822 117 13605	Jumper 0402
3256	4822 117 13605	Jumper 0402
3257	4822 117 13605	Jumper 0402
3258	4822 117 13548	1kΩ 5% 0402
3259	4822 117 13548	1kΩ 5% 0402
3260	4822 117 13548	1kΩ 5% 0402
3262	4822 117 13601	22kΩ 5% 0402
3263	2322 702 70398	3.9Ω 5% 0603
3264	4822 117 13601	22kΩ 5% 0402
3265	2322 702 70398	3.9Ω 5% 0603
3266	3198 031 05620	5.6kΩ 5% 0.01W 0402
3267	3198 031 05620	5.6kΩ 5% 0.01W 0402
3268	4822 117 13545	100Ω 1% 0402
3272	3198 031 04720	4.7kΩ 5% 0402
3273	4822 117 13548	1kΩ 5% 0402
3274	3198 031 03910	390Ω 1% 0402
3275	4822 117 13545	100Ω 1% 0402
3276	3198 031 07590	75Ω 5% 0402
3277	3198 031 01520	1.2kΩ 5% 0.01W 0402
3280	4822 117 11151	1Ω 5%
3281	3198 031 03930	39kΩ 5% 0402
3282	4822 051 30151	150Ω 5% 0.062W
3285	4822 117 13605	Jumper 0402
3286	4822 117 13545	100Ω 1% 0402
3292	3198 031 01230	12kΩ 5% 0402
3294	3198 031 04730	47Ω 5% 0402
3295	4822 117 11297	100kΩ 5% 0.1W
3297	3198 031 03320	3.3kΩ 5% 0402
3298	3198 031 03320	3.3kΩ 5% 0402
3431	4822 117 13548	1kΩ 5% 0402
3451	3198 031 04720	4.7kΩ 5% 0402
3453	4822 117 13545	100Ω 1% 0402
3454	4822 117 13545	100Ω 1% 0402
3455	4822 117 13545	100Ω 1% 0402
3456	4822 117 13545	100Ω 1% 0402
3458	4822 117 13545	100Ω 1% 0402
3459	4822 117 13545	100Ω 1% 0402
3461	4822 117 13545	100Ω 1% 0402
3462	4822 117 13545	100Ω 1% 0402
3604	4822 117 13601	22kΩ 5% 0402
3605	4822 117 13601	22kΩ 5% 0402
3609	4822 117 13601	22kΩ 5% 0402
3610	4822 117 11297	100kΩ 5% 0.1W
3611	4822 117 11297	100kΩ 5% 0.1W
3612	4822 117 13601	22kΩ 5% 0402
3615	4822 117 13606	10kΩ 5% 0.01W 0402
3618	4822 117 13601	22kΩ 5% 0402
3623	3198 031 04730	47Ω 5% 0402
3625	3198 031 03320	3.3kΩ 5% 0402
3627	4822 117 13601	22kΩ 5% 0402
3630	4822 117 13597	330Ω 5% 0.01W 0402
3631	4822 117 13597	330Ω 5% 0.01W 0402
3732	2322 704 61002	1kΩ 1%
3733	2322 704 63302	3.3kΩ 1% 0603
3734	4822 117 13545	100Ω 1% 0402
3735	4822 117 13548	1kΩ 5% 0402
3736	3198 031 04720	4.7kΩ 5% 0402
3750	4822 117 13601	22kΩ 5% 0402
3755	4822 117 13606	10kΩ 5% 0.01W 0402
3758	3198 031 01530	15kΩ 5% 0.01W 0402
3759	3198 031 01230	12kΩ 5% 0402
3800	4822 117 13606	10kΩ 5% 0.01W 0402
3801	2350 035 10229	4 x 22Ω 5% 1206
3802	2350 035 10229	4 x 22Ω 5% 1206
3803	2350 035 10229	4 x 22Ω 5% 1206
3804	2350 035 10229	4 x 22Ω 5% 1206
3805	2350 035 10229	4 x 22Ω 5% 1206
3806	2350 035 10229	4 x 22Ω 5% 1206
3807	2350 035 10229	4 x 22Ω 5% 1206
3808	2350 035 10229	4 x 22Ω 5% 1206
3809	2350 035 10229	4 x 22Ω 5% 1206
3810	2350 035 10229	4 x 22Ω 5% 1206
3811	2350 035 10229	4 x 22Ω 5% 1206
3812	2350 035 10229	4 x 22Ω 5% 1206
3813	2350 035 10229	4 x 22Ω 5% 1206
3814	3198 031 02290	22Ω 5% 0.1W 0402
3815	3198 031 02290	22Ω 5% 0.1W 0402
3816	3198 031 02290	22Ω 5% 0.1W 0402
3817	4822 117 13606	10kΩ 5% 0.01W 0402
3818	4822 117 13606	10kΩ 5% 0.01W 0402
3820	4822 117 13606	10kΩ 5% 0.01W 0402
3822	4822 117 13545	100Ω 1% 0402
3824	3198 031 03320	3.3kΩ 5% 0402
3825	3198 031 11030	4 x 10kΩ 5% 1206
3826	3198 031 11030	4 x 10kΩ 5% 1206
3827	4822 117 13606	10kΩ 5% 0.01W 0402
3828	4822 117 13606	10kΩ 5% 0.01W 0402
3829	4822 117 13606	10kΩ 5% 0.01W 0402
3831	4822 117 13545	100Ω 1% 0402
3832	4822 117 13545	100Ω 1% 0402
3833	3198 031 01090	10Ω 5% 0.01W 0402
3834	4822 117 13606	10kΩ 5% 0.01W 0402
3835	4822 117 13606	10kΩ 5% 0.01W 0402
3836	4822 117 13606	10kΩ 5% 0.01W 0402
3837	4822 117 13606	10kΩ 5% 0.01W 0402
3838	4822 117 13606	10kΩ 5% 0.01W 0402
3839	4822 117 13545	100Ω 1% 0402
3840	3198 031 02290	22Ω 5% 0.1W 0402
3841	4822 117 13606	10kΩ 5% 0.01W 0402
3842	4822 117 13606	10kΩ 5% 0.01W 0402
3900	3198 031 03320	3.3kΩ 5% 0402
3901	4822 117 13606	10kΩ 5% 0.01W 0402
3902	4822 117 13606	10kΩ 5% 0.01W 0402
3903	4822 117 13545	100Ω 1% 0402
3904	4822 117 13545	100Ω 1% 0402
3A02	4822 117 13548	1kΩ 5% 0402
3B01	4822 117 12706	10kΩ 1% 0.063W 0603
3B02	4822 117 12706	10kΩ 1% 0.063W 0603
3B03	2322 704 61501	150Ω 1% 0603
3C00	4822 117 13606	10kΩ 5% 0.01W 0402
3C01	4822 117 13606	10kΩ 5% 0.01W 0402
3C02	4822 117 13548	1kΩ 5% 0402
3C04	3198 031 11030	4 x 10kΩ 5% 1206
3C05	4822 117 13606	10kΩ 5% 0.01W 0402
3C06	3198 031 11030	4 x 10kΩ 5% 1206
3C07	3198 031 11030	4 x 10kΩ 5% 1206
3C08	3198 031 11030	4 x 10kΩ 5% 1206
3C09	3198 031 11030	4 x 10kΩ 5% 1206
3C10	3198 031 11030	4 x 10kΩ 5% 1206
3C16	3198 031 11030	4 x 10kΩ 5% 1206
3C17	4822 117 13606	10kΩ 5% 0.01W 0402
3C18	4822 117 13606	10kΩ 5% 0.01W 0402
3C22	4822 117 13548	1kΩ 5% 0402
3C23	3198 031 02240	220kΩ 5% 0.1W 0402
3D00	3198 031 04720	4.7kΩ 5% 0402
3D01	3198 031 04720	4.7kΩ 5% 0402
3D02	3198 031 04720	4.7kΩ 5% 0402
3D03	3198 031 04720	4.7kΩ 5% 0402
3D05	4822 117 13545	100Ω 1% 0402
3D06	4822 117 13545	100Ω 1% 0402
3D07	4822 117 13548	1kΩ 5% 0402
3D08	4822 117 13548	1kΩ 5% 0402
3D09	3198 031 04720	4.7kΩ 5% 0402
3D10	3198 031 04720	4.7kΩ 5% 0402
3D15	3198 031 13390	4 x 33Ω 5% 1206
3D16	3198 031 13390	4 x 33Ω 5% 1206
3D17	3198 031 13390	4 x 33Ω 5% 1206
3D18	3198 021 31080	1Ω 5% 0603
3D19	3198 021 31080	1Ω 5% 0603
3D20	3198 031 13390	4 x 33Ω 5% 1206
3D21	3198 031 13390	4 x 33Ω 5% 1206
3D22	3198 031 03390	33Ω 1% 0402
3D23	3198 031 03390	33Ω 1% 0402
3D24	4822 117 13596	220Ω 5% 0.01W 0402
3D26	4822 117 13596	220Ω 5% 0.01W 0402
3D27	3198 031 03320	3.3kΩ 5% 0402
3E06	3198 031 04730	47Ω 5% 0402
3E07	3198 031 04730	47Ω 5% 0402
3E08	3198 031 04730	47Ω 5% 0402
3E09	3198 031 04730	47Ω 5% 0402
3E10	3198 031 04730	47Ω 5% 0402
3E11	3198 031 04730	47Ω 5% 0402
3E12	4822 117 13606	10kΩ 5% 0.01W 0402
3E13	4822 117 13597	330Ω 5% 0.01W 0402
3E14	4822 117 13597	330Ω 5% 0.01W 0402
3E15	4822 117 13597	330Ω 5% 0.01W 0402
3E16	4822 117 13597	330Ω 5% 0.01W 0402
3E17	4822 117 13597	330Ω 5% 0.01W 0402
3E18	4822 117 13597	330Ω 5% 0.01W 0402
3E19	2322 705 70569	56Ω 5% 0402
3E20	2322 705 70569	56Ω 5% 0402
3E21	2322 705 70569	56Ω 5% 0402
3E22	4822 117 13632	100kΩ 1% 0603 0.62W
3E23	3198 031 08210	820Ω 5% 0.5W
3E24	4822 117 13543	470Ω 5% 0402
3E25	2322 705 70399	39Ω 5% 0402
3E26	3198 031 02290	22Ω 5% 0.1W 0402
3E27	2322 705 70399	39Ω 5% 0402
3E28	3198 031 02290	22Ω 5% 0.1W 0402
3E29	2322 705 70399	39Ω 5% 0402
3E30	3198 031 02290	22Ω 5% 0.1W 0402
3E31	4822 117 13545	100Ω 1% 0402
3E33	4822 117 13545	100Ω 1% 0402
3E35	4822 117 13545	100Ω 1% 0402
3E36	4822 117 13545	100Ω 1% 0402
3E37	3198 031 02290	22Ω 5% 0.1W 0402
3E38	4822 117 13545	100Ω 1% 0402
3E39	4822 117 13545	100Ω 1% 0402
3E41	4822 117 13545	100Ω 1% 0402
3E42	4822 117 13545	100Ω 1% 0402
3E43	4822 117 13545	100Ω 1% 0402
3E44	4822 117 13545	100Ω 1% 0402
3E45	4822 117 13545	100Ω 1% 0402
3E46	3198 031 01090	10Ω 5% 0.01W 0402
3E49	3198 031 02290	22Ω 5% 0.1W 0402
3E50	3198 031 04730	47Ω 5% 0402
3E51	3198 031 04730	47Ω 5% 0402
3E52	3198 031 04730	47Ω 5% 0402
3E53	3198 031 04730	47Ω 5% 0402
3E54	3198 031 04730	47Ω 5% 0402
3E55	3198 031 04730	47Ω 5% 0402
3E57	3198 031 01090	10Ω 5% 0.01W 0402
3F01	4822 051 30102	1kΩ 5% 0.062W
3F02	4822 051 30222	2.2kΩ 5% 0.062W
3F03	4822 051 30102	1kΩ 5% 0.062W
3F04	4822 051 30222	2.2kΩ 5% 0.062W
3F05	4822 117 13603	33kΩ 5% 0402
3F06	4822 117 13603	33kΩ 5% 0402
3F07	4822 117 13603	33kΩ 5% 0402
3F08	4822 117 13603	33kΩ 5% 0402
3F09	4822 117 13603	33kΩ 5% 0402
3F10	4822 117 13603	33kΩ 5% 0402
3F11	4822 117 13603	33kΩ 5% 0402
3F12	4822 117 13603	33kΩ 5% 0402
3F13	4822 117 13603	33kΩ 5% 0402
3F14	4822 117 13603	33kΩ 5% 0402
3F15	4822 117 13603	33kΩ 5% 0402
3F16	4822 117 13603	33kΩ 5% 0402
3F17	4822 117 13603	33kΩ 5% 0402
3F18	4822 117 13603	33kΩ 5% 0402
3F19	4822 117 13603	33kΩ 5% 0402
3F20	4822 117 13603	33kΩ 5% 0402
3F24	4822 051 30103	10kΩ 5% 0.062W
3F25	4822 051 30103	10kΩ 5% 0.062W
3F26	4822 051 30153	15kΩ 5% 0.062W
3F27	4822 051 30153	15kΩ 5% 0.062W
3G01	4822 051 30151	150Ω 5% 0.062W
3G02	4822 117 12891	220kΩ 1%
3G03	4822 117 12891	220kΩ 1%

3G04	4822 051 30103	10kΩ 5% 0.062W
3G05	4822 051 30103	10kΩ 5% 0.062W
3G06	4822 051 30101	100Ω 5% 0.062W
3G07	4822 051 30101	100Ω 5% 0.062W
3G08	4822 051 30101	100Ω 5% 0.062W
3G09	2122 118 06408	91Ω 5% 0603
3G10	2122 118 06408	91Ω 5% 0603
3G11	3198 031 06820	6.8kΩ 5% 0.01W 0402
3G12	4822 051 30759	75Ω 5% 0.062W
3G13	4822 051 30331	330Ω 5% 0.062W
3G14	4822 051 30102	1kΩ 5% 0.062W
3G15	4822 051 30102	1kΩ 5% 0.062W
3G16	4822 051 30759	75Ω 5% 0.062W
3G17	4822 051 30101	100Ω 5% 0.062W
3G18	4822 051 30103	10kΩ 5% 0.062W
3G19	4822 051 30103	10kΩ 5% 0.062W
3G20	4822 051 30153	15kΩ 5% 0.062W
3G21	4822 051 30153	15kΩ 5% 0.062W
3G22	4822 051 30151	150Ω 5% 0.062W
3G23	4822 051 30151	150Ω 5% 0.062W
3G24	4822 117 12891	220kΩ 1%
3G25	4822 117 12891	220kΩ 1%
3G26	4822 051 30103	10kΩ 5% 0.062W
3G27	4822 051 30103	10kΩ 5% 0.062W
3G28	4822 051 30759	75Ω 5% 0.062W
3G29	4822 051 30102	1kΩ 5% 0.062W
3G30	4822 051 30689	68Ω 5% 0.063W 0603
3G33	4822 051 30102	1kΩ 5% 0.062W
3G34	4822 051 30101	100Ω 5% 0.062W
3G36	3198 031 04730	47Ω 5% 0402
3G37	3198 031 04730	47Ω 5% 0402
3G38	4822 051 30151	150Ω 5% 0.062W
3G39	4822 051 30273	27kΩ 5% 0.062W
3G57	3198 031 02730	27kΩ 5% 0402
3G58	4822 051 30689	68Ω 5% 0.063W 0603
3G59	2122 118 06408	91Ω 5% 0603
3G72	4822 051 30759	75Ω 5% 0.062W
3G73	4822 051 30759	75Ω 5% 0.062W
3G74	4822 051 30759	75Ω 5% 0.062W
3G75	4822 051 30759	75Ω 5% 0.062W
3G76	4822 117 13545	100Ω 1% 0402
3G77	3198 031 04730	47Ω 5% 0402
3G78	3198 031 04730	47Ω 5% 0402
3G79	3198 031 06820	6.8kΩ 5% 0.01W 0402
3G96	3198 031 04730	47Ω 5% 0402
3G99	3198 031 04730	47Ω 5% 0402
3J03	3198 031 06890	68Ω 5% 0402
3J04	3198 031 06890	68Ω 5% 0402
3J05	3198 031 06890	68Ω 5% 0402
3K00	4822 117 13545	100Ω 1% 0402
3K01	4822 117 13545	100Ω 1% 0402
3K02	4822 117 13606	10kΩ 5% 0.01W 0402
3K03	3198 031 01530	15kΩ 5% 0.01W 0402
3K05	4822 117 13606	10kΩ 5% 0.01W 0402
3K06	3198 031 01530	15kΩ 5% 0.01W 0402
3K07	2322 705 70399	39Ω 5% 0402
3K08	3198 031 06890	68Ω 5% 0402
3K09	2322 705 70399	39Ω 5% 0402
3K11	3198 031 06890	68Ω 5% 0402
3K12	3198 031 06890	68Ω 5% 0402
3K13	3198 031 06890	68Ω 5% 0402
3L01	2350 033 11229	4x 22Ω 5% Netw.
3L02	2350 033 11229	4x 22Ω 5% Netw.
3L05	2350 033 11229	4x 22Ω 5% Netw.
3L06	2350 033 11229	4x 22Ω 5% Netw.
3L07	3198 031 02290	22Ω 5% 0.1W 0402
3L09	3198 021 32290	22Ω 5% 0603
3L10	3198 021 32290	22Ω 5% 0603
3L12	4822 117 13606	10kΩ 5% 0.01W 0402
3L18	3198 031 01510	150Ω 5% 0.01W 0402
3L19	3198 031 01510	150Ω 5% 0.01W 0402
3L38	4822 051 30222	2.2kΩ 5% 0.062W
3L39	4822 051 30222	2.2kΩ 5% 0.062W
3L49	4822 117 13548	1kΩ 5% 0402
3L53	4822 117 13597	330Ω 5% 0.01W 0402
3L54	4822 117 13543	470Ω 5% 0402
3L55	4822 117 13545	100Ω 1% 0402
3L56	4822 117 13548	1kΩ 5% 0402
3L57	4822 117 13545	100Ω 1% 0402
3L58	4822 117 13548	1kΩ 5% 0402
3L60	4822 117 13605	Jumper 0402
3L61	4822 117 13597	330Ω 5% 0.01W 0402
3L62	4822 117 13543	470Ω 5% 0402
3L63	4822 117 13545	100Ω 1% 0402
3L64	4822 117 13548	1kΩ 5% 0402
3L65	4822 117 13545	100Ω 1% 0402
3L67	4822 117 13605	Jumper 0402
3L68	4822 117 13605	Jumper 0402
3L71	4822 117 13597	330Ω 5% 0.01W 0402
3L73	4822 117 13545	100Ω 1% 0402
3L75	4822 051 30153	15kΩ 5% 0.062W
3L76	4822 051 30153	15kΩ 5% 0.062W
3L92	3198 031 03390	33Ω 1% 0402
3L93	3198 031 06890	68Ω 5% 0402
3L94	3198 031 03910	390Ω 1% 0402
3L95	3198 031 03390	33Ω 1% 0402
3L96	3198 031 06890	68Ω 5% 0402
3L97	3198 031 03390	33Ω 1% 0402
3L98	3198 031 06890	68Ω 5% 0402
3L99	3198 031 03910	390Ω 1% 0402
3M01	2350 035 10689	4 x 68Ω 5%
3M02	2350 035 10689	4 x 68Ω 5%
3M03	2350 035 10689	4 x 68Ω 5%
3M04	2350 035 10689	4 x 68Ω 5%
3M06	2350 035 10229	4 x 22Ω 5% 1206
3M07	2350 035 10229	4 x 22Ω 5% 1206
3M08	2350 035 10229	4 x 22Ω 5% 1206
3M09	2350 035 10229	4 x 22Ω 5% 1206
3M11	3198 031 04720	4.7kΩ 5% 0402
3M13	3198 031 04720	4.7kΩ 5% 0402
3M14	4822 117 13545	100Ω 1% 0402
3M15	4822 117 13545	100Ω 1% 0402
3M16	3198 031 04720	4.7kΩ 5% 0402
3M50	4822 117 13606	10kΩ 5% 0.01W 0402
3M51	4822 117 13606	10kΩ 5% 0.01W 0402
3M52	4822 117 13606	10kΩ 5% 0.01W 0402
3M53	4822 117 13546	47Ω 5% 0402
3M54	4822 117 13546	47Ω 5% 0402
3M55	4822 117 13546	47Ω 5% 0402
3M56	4822 117 13606	10kΩ 5% 0.01W 0402
3M57	4822 117 13546	47Ω 5% 0402
3M58	4822 117 13606	10kΩ 5% 0.01W 0402
3M59	4822 117 13546	47Ω 5% 0402
3M78	4822 117 13548	1kΩ 5% 0402
3M79	3198 031 03320	3.3kΩ 5% 0402
3M87	4822 117 13605	Jumper 0402
3M89	3198 031 02290	22Ω 5% 0.1W 0402
3M90	3198 031 02290	22Ω 5% 0.1W 0402
3S00	3198 031 04730	47Ω 5% 0402
3S03	3198 031 04730	47Ω 5% 0402
4211	4822 117 13605	Jumper 0402
4212	4822 117 13605	Jumper 0402
4218	4822 117 13605	Jumper 0402
4219	4822 117 13605	Jumper 0402
4440	4822 117 13605	Jumper 0402
4441	4822 117 13605	Jumper 0402
4801	4822 117 13605	Jumper 0402
4A05	4822 117 13605	Jumper 0402
4A06	4822 117 13605	Jumper 0402
4D03	4822 117 13605	Jumper 0402
4D04	4822 117 13605	Jumper 0402
4E10	3198 031 01090	10Ω 5% 0.01W 0402
4E11	3198 031 01090	10Ω 5% 0.01W 0402
4G04	4822 117 13605	Jumper 0402
4G05	4822 117 13605	Jumper 0402
4G07	4822 117 13605	Jumper 0402
4G08	4822 117 13605	Jumper 0402
4G31	4822 117 13605	Jumper 0402
4K04	4822 117 13605	Jumper 0402
4K05	4822 117 13605	Jumper 0402
4L37	4822 117 13545	100Ω 1% 0402
4M00	4822 117 13605	Jumper 0402
4M01	4822 117 13605	Jumper 0402
4M02	4822 117 13605	Jumper 0402
4M03	4822 117 13605	Jumper 0402
4M05	4822 117 13605	Jumper 0402
4M08	4822 117 13605	Jumper 0402
4M09	4822 117 13605	Jumper 0402
4M10	4822 117 13605	Jumper 0402
4M16	4822 117 13605	Jumper 0402
4M17	4822 117 13605	Jumper 0402
4N01	4822 117 13605	Jumper 0402
4N02	4822 117 13605	Jumper 0402
4N03	4822 117 13605	Jumper 0402
4N04	4822 117 13605	Jumper 0402
4N05	4822 117 13605	Jumper 0402
4N06	4822 117 13605	Jumper 0402
4N07	4822 117 13605	Jumper 0402
4N08	4822 117 13605	Jumper 0402
4N09	4822 117 13605	Jumper 0402
4N10	4822 117 13605	Jumper 0402

5151	3198 018 33970	0.39µH 10% 0805
5152	4822 157 71334	0.68µH 5% 1008
5153	4822 157 71334	0.68µH 5% 1008
5201	4822 157 11716	Bead 30Ω at 100MHz
5202	4822 157 11716	Bead 30Ω at 100MHz
5203	4822 157 11716	Bead 30Ω at 100MHz
5204	2422 549 42896	Bead 120Ω 100MHz
5205	4822 157 11716	Bead 30Ω at 100MHz
5206	4822 157 11716	Bead 30Ω at 100MHz
5207	2422 549 42896	Bead 120Ω 100MHz
5208	4822 157 11716	Bead 30Ω at 100MHz
5209	4822 157 11716	Bead 30Ω at 100MHz
5210	4822 157 11716	Bead 30Ω at 100MHz
5211	4822 157 11716	Bead 30Ω at 100MHz
5212	4822 157 11716	Bead 30Ω at 100MHz
5213	4822 157 11716	Bead 30Ω at 100MHz
5214	2422 536 00667	1000µH 20% 7032
5216	4822 157 11716	Bead 30Ω at 100MHz
5218	2422 549 45333	Bead 120Ω at 100MHz
5700	2422 549 45333	Bead 120Ω at 100MHz
5730	2422 535 94134	10µH 20% 0805
5733	2422 536 00707	33µH 20%
5735	2422 536 00516	100µH 20%
5737	2422 535 94134	10µH 20% 0805
5738	2422 549 45333	Bead 120Ω at 100MHz
5751	2422 535 94134	10µH 20% 0805
5756	2422 549 45333	Bead 120Ω at 100MHz
5757	2422 549 45333	Bead 120Ω at 100MHz
5900	2422 549 45333	Bead 120Ω at 100MHz
5901	2422 549 45333	Bead 120Ω at 100MHz
5902	2422 549 45333	Bead 120Ω at 100MHz
5903	2422 549 45333	Bead 120Ω at 100MHz
5904	2422 549 45333	Bead 120Ω at 100MHz
5905	2422 549 45333	Bead 120Ω at 100MHz
5906	2422 549 45333	Bead 120Ω at 100MHz
5907	2422 549 45333	Bead 120Ω at 100MHz
5908	2422 549 45333	Bead 120Ω at 100MHz
5909	2422 549 45333	Bead 120Ω at 100MHz
5910	2422 549 45333	Bead 120Ω at 100MHz
5911	2422 549 45333	Bead 120Ω at 100MHz
5C00	2422 549 45333	Bead 120Ω at 100MHz
5D00	2422 549 42896	Bead 120Ω 100MHz
5D01	2422 549 42896	Bead 120Ω 100MHz
5D02	2422 549 42896	Bead 120Ω 100MHz
5D03	2422 549 42896	Bead 120Ω 100MHz
5D04	2422 549 42896	Bead 120Ω 100MHz
5D05	2422 549 42896	Bead 120Ω 100MHz
5D06	2422 549 42896	Bead 120Ω 100MHz
5E00	2422 549 45333	Bead 120Ω at 100MHz
5E01	2422 549 45333	Bead 120Ω at 100MHz
5G01	2422 549 45333	Bead 120Ω at 100MHz
5G02	2422 549 45333	Bead 120Ω at 100MHz
5G03	2422 549 45333	Bead 120Ω at 100MHz
5G06	2422 549 45333	Bead 120Ω at 100MHz
5G07	2422 549 42896	Bead 120Ω 100MHz
5G08	2422 549 42896	Bead 120Ω 100MHz
5J01	2422 549 42896	Bead 120Ω 100MHz
5J02	2422 549 42896	Bead 120Ω 100MHz
5J03	2422 549 45333	Bead 120Ω at 100MHz
5L01	2422 549 45333	Bead 120Ω at 100MHz
5L11	2422 549 45333	Bead 120Ω at 100MHz
5L17	2422 549 45333	Bead 120Ω at 100MHz
5L19	2422 549 45333	Bead 120Ω at 100MHz
5L21	2422 549 45333	Bead 120Ω at 100MHz
5L51	4822 157 71694	0.82µH 10%
5L52	3198 018 53380	3.3µH 10% 0603
5L53	3198 018 56880	6.8µH 10% 0603
5L61	4822 157 71694	0.82µH 10%
5L62	3198 018 53380	3.3µH 10% 0603
5L63	3198 018 56880	6.8µH 10% 0603
5L71	2422 549 45333	Bead 120Ω at 100MHz
5M00	2422 549 45333	Bead 120Ω at 100MHz
5M01	2422 549 45333	Bead 120Ω at 100MHz
5M02	2422 549 45333	Bead 120Ω at 100MHz
5M03	2422 549 45333	Bead 120Ω at 100MHz
5M04	2422 549 45333	Bead 120Ω at 100MHz
5M05	2422 549 45333	Bead 120Ω at 100MHz

6151	4822 130 11416	PDZ6.8B
6152	4822 130 11416	PDZ6.8B
6153	4822 130 11397	BAS316
6154	4822 130 11525	1SS356
6204	4822 130 80622	BAT54
6205	4822 130 80622	BAT54
6430	9340 548 42115	PDZ2.4B
6431	9965 000 20150	1N4148WS SOD-323
6601	4822 130 10838	UDZ3.3B
6733	9322 128 70685	SMSS14
6734	4822 130 11416	PDZ6.8B
6735	5322 130 34337	BAV99
6736	9340 548 71115	PDZ33B
6G01	4822 130 11564	UDZ3.9B
6G02	4822 130 11564	UDZ3.9B
6G03	4822 130 11564	UDZ3.9B
6G04	4822 130 11564	UDZ3.9B
6G06	4822 130 11564	UDZ3.9B
6G07	4822 130 11564	UDZ3.9B
6G08	4822 130 11564	UDZ3.9B
6G09	4822 130 11564	UDZ3.9B

7151	3198 010 42310	BC847BW

7201	9340 550 49115	PUMH7
7202	9340 550 49115	PUMH7
7206	4822 130 60373	BC856B
7207	9322 214 45668	M24C16-WMN6P
7208	3198 010 42310	BC847BW
7209	3198 010 42310	BC847BW
7210	3198 010 42310	BC847BW
7214	9339 693 90135	BCP69-25
7215	9339 693 90135	BCP69-25
7216	9340 425 20115	BC847BS
7217		SW (see 0801)
7219	9322 164 91668	CD74HC4053M
7220	9965 000 04199	BSN20
7221	9965 000 04199	BSN20
7430	4822 130 11155	PDTC114ET
7436	9322 221 97668	SN74LVC14APW
7601	9322 183 05668	TS482ID
7602	9351 742 70118	74HC08PW
7605	9340 310 50215	PDTA143ET
7606	9340 425 20115	BC847BS
7607	3198 010 42310	BC847BW
7730	9322 202 34668	L5973D
7735	4822 130 11057	2N7002
7738	9322 163 24668	L78M08CDT
7754	9322 214 00668	SI2301BDS-E3
7755	4822 130 11155	PDTC114ET
7756	4822 130 11155	PDTC114ET
7758	9322 212 14668	SI4423DY
7801	9322 230 32671	GM1501-LF-CF
7900	9322 142 88668	LF25CDT
7901	9322 189 19668	LD1086D2T18
7B01	9322 214 42671	K4D263238F-QC50
7C00		SW (see 0811)
7C01	9322 189 01668	AT24C32AN
7C02	9322 215 39685	PST596JN
7C03	9322 199 93668	M29W400DT-55N6
7D00		SW (see 0821)
7D01		SW (see 0822)
7D02	9322 189 19668	LD1086D2T18
7D03	9352 784 83551	TDA9974AEL/8/C1
7D04	9352 668 39118	UDA1334ATS/N2
7D05	2722 171 00038	Xtal SM 13M5 15p
7E00	9322 195 23668	ADG733BRU
7E01	9322 199 80668	SM5301BS-G
7E04	9322 221 97668	SN74LVC14APW
7E05	9322 221 97668	SN74LVC14APW
7F01	3198 010 42310	BC847BW
7F02	3198 010 42310	BC847BW
7F03	4822 209 15765	74HC4052D
7G01	3198 010 42310	BC847BW
7G02	3198 010 42310	BC847BW
7G11	9322 164 91668	CD74HC4053M
7L01	9322 226 40671	P3563M-LF-80
7L02	4822 209 17398	LD1117DT33
7L51	3198 010 42310	BC847BW
7L52	3198 010 42320	BC857BW
7L61	3198 010 42310	BC847BW
7L62	3198 010 42320	BC857BW
7L71	3198 010 42310	BC847BW
7L72	9322 226 94668	SM5304AV-G
7M00	9322 204 76671	T6TU5XBG-0001
7M01	9322 206 19672	MSM56V16160F-7T3-FG
7M03	9322 170 14668	LF15ABDT

Audio Amplifier Panel [C]

Various

1001	2422 025 09406	Connector 4p m
1002	2422 025 10769	Connector 9p m
1003	2422 025 10768	Connector 3p m

⊣⊢

2001	2020 024 00023	220µ 35V
2002	2238 586 59812	100nF 20% 50V 0603
2003	2238 586 59812	100nF 20% 50V 0603
2004	2020 024 00023	220µ 35V
2006	2020 552 94427	100pF 5% 50V
2007	2020 552 94427	100pF 5% 50V
2008	2020 552 94427	100pF 5% 50V
2009	2020 552 94427	100pF 5% 50V
2010	2238 586 59812	100nF 20% 50V 0603
2012	2020 024 00023	220µ 35V
2014	4822 126 14238	2.2nF 50V 0603
2015	4822 126 14238	2.2nF 50V 0603
2016	4822 126 14238	2.2nF 50V 0603
2017	2238 586 59812	100nF 20% 50V 0603
2018	3198 017 31530	15nF 20% 50V 0603
2019	3198 037 52280	2.2µ 50V
2020	4822 126 13883	220pF 5% 50V
2021	4822 126 13883	220pF 5% 50V
2022	4822 126 14076	220nF +80/-20% 25V
2023	4822 121 51252	470nF 5% 63V
2024	2020 012 00036	1000µ 25V
2026	3198 017 42240	220nF 16V Y5V 0603
2027	2238 586 59812	100nF 20% 50V 0603
2028	2238 586 59812	100nF 20% 50V 0603
2029	2020 024 00023	220µ 35V
2030	4822 126 14238	2.2nF 50V 0603
2031	4822 126 14238	2.2nF 50V 0603
2032	4822 126 14238	2.2nF 50V 0603
2034	2238 586 59812	100nF 20% 50V 0603
2035	4822 126 13883	220pF 5% 50V
2036	4822 126 13883	220pF 5% 50V
2037	3198 037 52280	2.2µ 50V
2038	3198 017 31530	15nF 20% 50V 0603
2039	2020 552 96656	10µF 20% 25V 1210
2040	3198 017 42240	220nF 16V Y5V 0603
2041	2020 552 96656	10µF 20% 25V 1210
2042	4822 121 51252	470nF 5% 63V
2043	2020 012 00036	1000µ 25V
2044	2238 586 59812	100nF 20% 50V 0603
2045	4822 126 14076	220nF +80/-20% 25V
2047	3198 017 41050	1µF 10V 0603
2048	2238 586 59812	100nF 20% 50V 0603
2049	2020 552 96305	4.7µF 20-80% 10V
2051	2020 552 94427	100pF 5% 50V
2052	4822 126 14238	2.2nF 50V 0603
2053	4822 126 14238	2.2nF 50V 0603
2054	4822 126 14238	2.2nF 50V 0603
2055	4822 126 14238	2.2nF 50V 0603
2060	4822 126 14238	2.2nF 50V 0603
2061	4822 126 14238	2.2nF 50V 0603
2062	3198 017 34730	47nF 16V 0603
2063	3198 017 34730	47nF 16V 0603
2064	5322 126 11579	3.3nF 10% 63V
2065	5322 126 11579	3.3nF 10% 63V

-ʌʌʌ-

3001	5322 117 11726	10Ω 5%
3002	4822 051 30562	5.6kΩ 5% 0.063W 0603
3003	4822 051 30223	22kΩ 5% 0.062W
3004	4822 051 30332	3.3Ω 5% 0.062W
3006	4822 051 30102	1kΩ 5% 0.062W
3007	4822 117 12925	47kΩ 1% 0.063W 0603
3008	4822 051 30222	2.2kΩ 5% 0.062W
3009	4822 117 12891	220kΩ 1%
3010	4822 051 30272	2.7kΩ 5% 0.062W
3011	4822 051 30222	2.2kΩ 5% 0.062W
3012	4822 051 20109	10Ω 5% 0.1W
3013	4822 051 30123	12kΩ 5% 0.1W
3014	2322 762 60229	22Ω 5% 1005
3019	4822 051 30103	10kΩ 5% 0.062W
3020	4822 051 30332	3.3Ω 5% 0.062W
3021	4822 051 30472	4.7Ω 5% 0.062W
3022	3198 021 32290	22Ω 5% 0603
3023	4822 051 30102	1kΩ 5% 0.062W
3024	4822 117 12925	47kΩ 1% 0.063W 0603
3025	4822 051 30222	2.2kΩ 5% 0.062W
3026	4822 051 30272	2.7kΩ 5% 0.062W
3027	4822 117 12891	220kΩ 1%
3028	4822 051 30103	10kΩ 5% 0.062W
3029	4822 051 30222	2.2kΩ 5% 0.062W
3030	4822 051 20109	10Ω 5% 0.1W
3031	2322 762 60229	22Ω 5% 1005
3032	4822 051 30392	3.9Ω 5% 0.063W 0603
3033	4822 051 30123	12kΩ 5% 0.1W
3034	4822 051 30392	3.9Ω 5% 0.063W 0603
3037	4822 051 30392	3.9Ω 5% 0.063W 0603
3039	4822 051 30103	10kΩ 5% 0.062W
3040	4822 051 30103	10kΩ 5% 0.062W
3041	4822 051 30103	10kΩ 5% 0.062W
3042	4822 051 30103	10kΩ 5% 0.062W
3043	4822 051 30103	10kΩ 5% 0.062W
3046	4822 051 30102	1kΩ 5% 0.062W
3047	4822 051 30102	1kΩ 5% 0.062W

-ᴗᴗᴗ-

5001	2422 549 44197	Bead 220Ω at 100MHz
5002	3198 018 52280	2.2µH 10% 0603
5003	3198 018 52280	2.2µH 10% 0603
5004	3198 018 52280	2.2µH 10% 0603
5005	3198 018 52280	2.2µH 10% 0603
5006	2422 536 01034	33µH
5007	2422 536 01034	33µH

⊳|

6002	4822 130 80622	BAT54
6003	4822 130 80622	BAT54

⧉

7000	9352 760 45118	TDA8931T/N1
7001	9352 760 45118	TDA8931T/N1
7004	9322 209 56685	TL431ACDBV

Side I/O Panel [D]

Various

1301	4822 267 10484	YKF51-5359
1302	2422 026 05655	Cinch 3p f RdWhYe
1303	2422 026 05059	Connector Phone
1304	2422 025 10772	Connector 12p m

⊣⊢

2302	4822 126 11785	47pF 5% 50V 0603
2304	4822 126 11785	47pF 5% 50V 0603
2306	4822 126 14241	330pF 0603 50V
2307	4822 126 14241	330pF 0603 50V
2308	5322 126 11583	10nF 10% 50V 0603
2309	5322 126 11583	10nF 10% 50V 0603
2310▲	3198 017 41050	1µF 10V 0603

-ʌʌʌ-

3301	4822 051 30759	75Ω 5% 0.062W
3302	4822 051 30109	10Ω 5% 0.062W
3303	4822 051 30109	10Ω 5% 0.062W
3304	4822 051 30759	75Ω 5% 0.062W
3305	4822 117 13632	100kΩ 1% 0603 0.62W
3306	4822 051 30153	15kΩ 5% 0.062W
3307	4822 051 30102	1kΩ 5% 0.062W
3308	4822 051 30153	15kΩ 5% 0.062W
3309▲	4822 051 30759	75Ω 5% 0.062W
3310▲	4822 051 30563	56kΩ 5% 0.062W
3311	4822 051 30103	10kΩ 5% 0.062W

⊳|

6301	9322 129 41685	BZM55-C12
6302	9322 129 41685	BZM55-C12
6303	9322 129 41685	BZM55-C12
6304	9322 129 41685	BZM55-C12
6305	9322 129 41685	BZM55-C12
6306	9322 129 41685	BZM55-C12
6307	9322 129 41685	BZM55-C12
6308	9322 129 41685	BZM55-C12

⧉

7301▲	4822 130 60373	BC856B

Control Board [E]

Various

1309	4822 276 13775	Switch 1p 0.1A 12V
1310	4822 276 13775	Switch 1p 0.1A 12V
1311	4822 276 13775	Switch 1p 0.1A 12V
1312	4822 276 13775	Switch 1p 0.1A 12V
1313	4822 276 13775	Switch 1p 0.1A 12V
1314	4822 276 13775	Switch 1p 0.1A 12V
1684	4822 267 10459	Connector 3p
8684	3139 131 04421	Cable 3p/340/3p

-ʌʌʌ-

3318	4822 051 30151	150Ω 5% 0.062W
3319	4822 051 30391	390Ω 5% 0.062W
3320	3198 021 31820	1.8kΩ 5% 0.062W 0603
3321	4822 117 12968	820Ω 5% 0.62W
3322	4822 051 30008	Jumper 0603
3323	4822 051 30008	Jumper 0603
3324	4822 051 30561	560Ω 5% 0.062W

⊳|

6306	4822 130 11148	UDZ4.7B

LED & IR Panel [J]

2801	2020 552 96637	10µF 10% 6.3V 0805
2802	2020 552 96637	10µF 10% 6.3V 0805

3801	4822 051 30332	3.3Ω 5% 0.062W
3802	4822 051 30331	330Ω 5% 0.062W
3803	4822 051 30221	220Ω 5% 0.062W

6801	9322 192 35676	SPR-325MVW
6803	4822 130 11564	UDZ3.9B

7801	4822 130 60373	BC856B
7802	9322 207 16667	TSOP34836LL1B
7803	5322 130 60159	BC846B
7804	5322 130 60159	BC846B

11. Revision List

Manual xxxx xxx xxxx.0

- First release.